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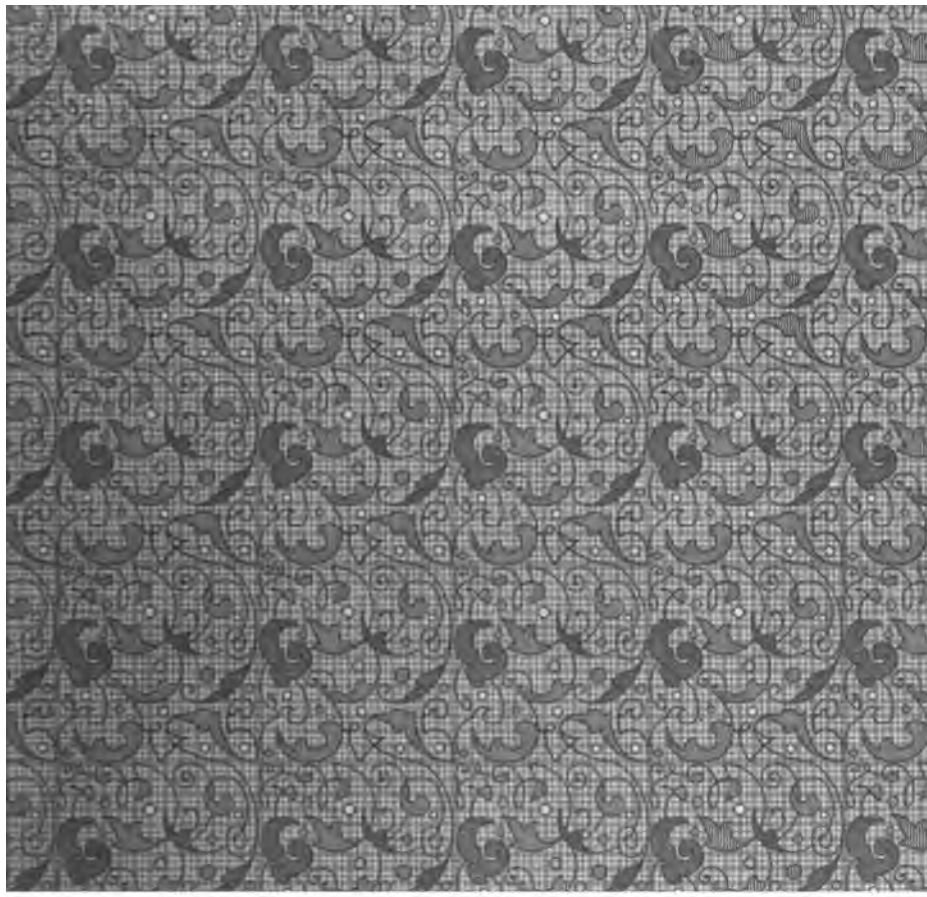

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STATE MINING BUREAU,

HENRY G. HANKS, State Mineralogist.

FIRST ANNUAL CATALOGUE

OF THE

ATE MUSEUM OF CALIFORNIA.

BEING THE

OLLECTIONS MADE BY THE STATE MINING BUREAU

During the Year ending April 16, 1881.

SACRAMENTO:

D. YOUNG, : : : : : SUPT. STATE PRINTING.

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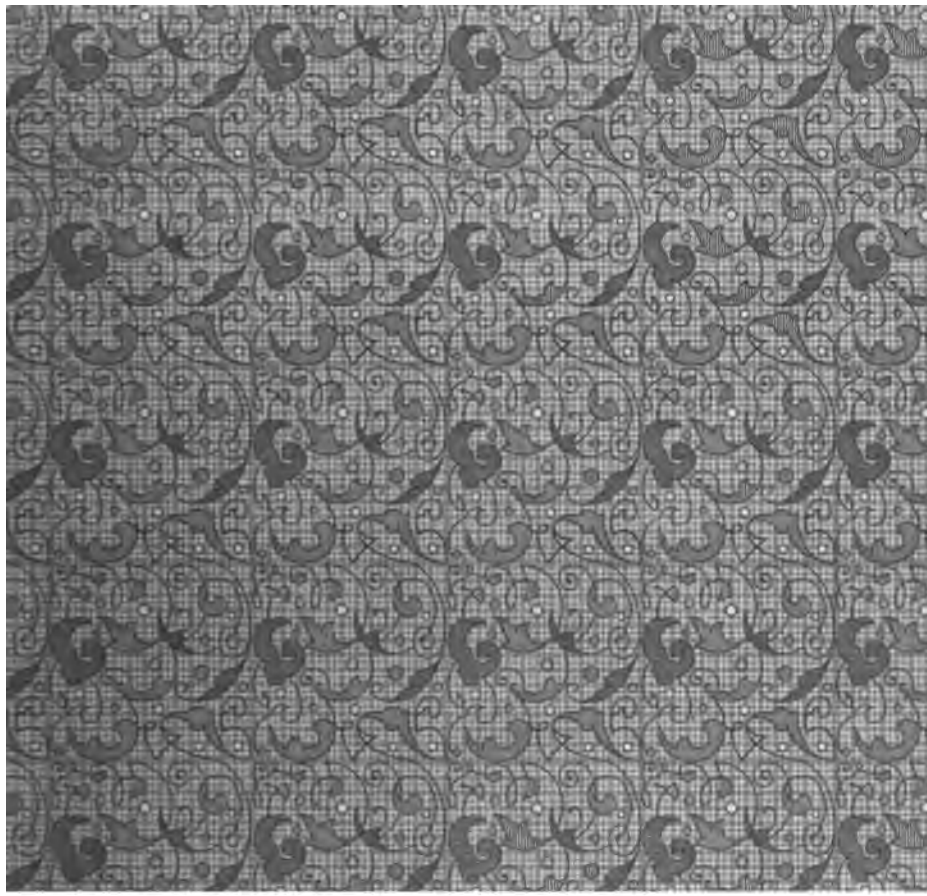

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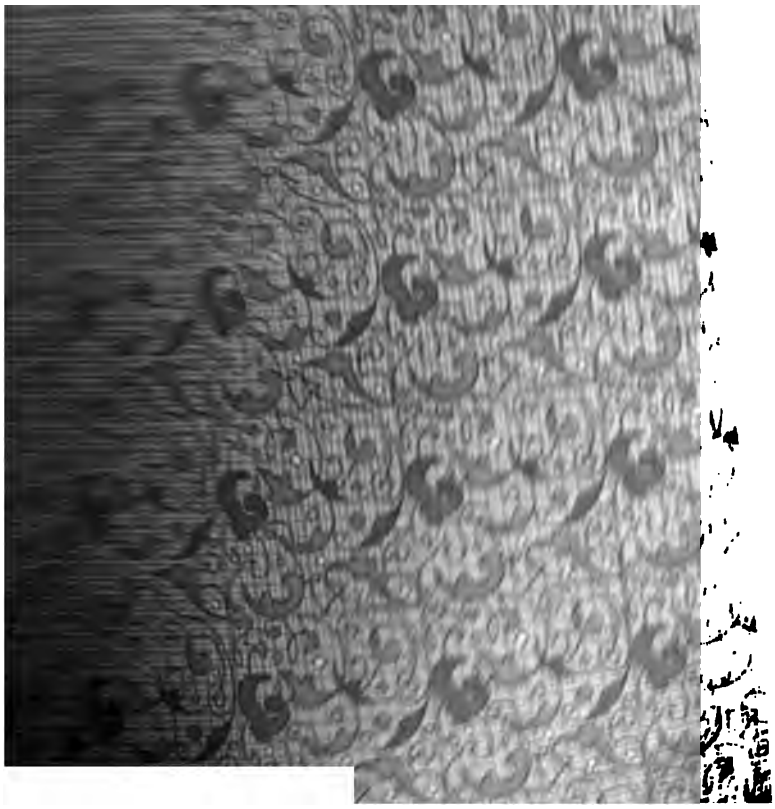

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To His Excellency GEORGE C. PERKINS, *Governor of California:*

SIR: I have the honor to submit the First Annual Catalogue of the collections made by the California State Mining Bureau, for the year ending April 16th, 1881. It does not, by any means, represent all the specimens collected, but those only which have been entered, classified, labeled, and displayed in the Museum cases. A large quantity of additional Museum material has also accumulated, which has been carefully packed in drawers for future arrangement. The names of the specimens and their locations will form a part of the next annual catalogue.

The efforts of the Mining Bureau to procure specimens has met with cordial response, not only from citizens of this State, but from those from other States and countries.

A system of exchanges has been planned which must result in many valuable additions to the State Museum.

The State Mining Bureau acknowledges special favors extended by Wells, Fargo & Co., the Central Pacific Railroad Company, and the various steamship lines.

HENRY G. HANKS,
State Mineralogist.

SAN FRANCISCO, January 1, 1882.

PART FIRST.

NUMERICAL CATALOGUE.

1. **Slab with Fossil Plants,** Box Elder County, Utah. Charles Barnard.

2. **Red Aragonite,** Suisun, California. Henry G. Hanks.

3. **Pyrargyrite,** Keystone Mine, Wallapai District, Mohave County, Arizona. S. Heydenfeldt, Jr.

4. **Rich Silver Ore,** Leopard Mine, Cornucopia District, Elko County, Nevada.

5. **Native Silver,** Mahogany Mine, Idaho. F. Vassault.

6. **Chrome Iron,** Litton Springs, Sonoma County, California. Henry G. Hanks.

7. **Gold Quartz,** Peter Walter Mine, Placer County, California. T. J. Owens.

8. **Serpentine,** Transformation from Gabbro and Microscopic section. Peninsula of San Francisco. M. Attwood.

9. **Pearl on Shell of Pearl Oyster,** Lower California, north of La Paz. Aug. J. Bowie, Jr.

10. **Kustelite,** Gould & Curry Mine, Virginia, Nevada.

11. **Silicified Wood,** Nevada City, California. John Garber.

12. **Cerargyrite—Horn Silver,** Eberhart Mine, White Pine District, Nevada.

13. **Group of Quartz Crystals,** Wyoming Mine, Panamint, Inyo County, California. James A. Pritchard.

14. **Rich Silver Ore,** Leopard Mine, Cornucopia District, Elko County, Nevada. Tod Robinson.

15. **Rock from Serpentine Belt,** San Francisco County, California. M. Attwood.

16. **Gold Quartz,** Sliced section, Good Friday Mine, Placer County, California. Jules Laine.

17. **Aragonite,** White Pine, Nevada. Henry G. Hanks.

18. **Quartz Cut and Polished,** California. Maurice Laine.

19. **Iron Ore,** McCloud River, Shasta County, California. Henry G. Hanks. (See 1761).

20. **Magnetite,** McCloud River, Shasta County, California. Henry G. Hanks.

21. **Lime Epidote,** Willimantic, Connecticut. Henry G. Hanks.

22. **Calcite,** Bergen Hill, New Jersey. Henry G. Hanks.

23. **Coarse Granite,** Near Sacramento, California. Henry G. Hanks.

24. **Freestone,** Haverstraw, New York. Henry G. Hanks.

25. **Silver Ore,** Combination Mine, Desert Springs, Kern County, California. Henry G. Hanks.

26. **Fluor Spar,** Derbyshire, England. Henry G. Hanks.

27. **Calcite,** White Pine, Nevada. Henry G. Hanks.

28. **Silver Ore,** Oregon Mine, Austin, Lander County, Nevada. Henry G. Hanks.

29. **Silver Ore,** Manhattan Mine, Austin, Lander County, Nevada. Henry G. Hanks.

30. **Silver Ore,** Diana Mine, Austin, Lander County, Nevada. Henry G. Hanks.

31. **Silver Ore,** North Star Mine, Austin, Lander County, Nevada. Henry G. Hanks.

32. **Quartz,** New York County, New York. Henry G. Hanks.

33. **Hypersthene,** Weehawken, New Jersey. Henry G. Hanks.

34. **Quartz Crystals,** Placer County, California. Henry G. Hanks.

35. **Diatomaceous Earth,** Santa Monica, California. Henry G. Hanks.

36. **Quartz Crystal,** Inclosing Rutile, Japan.

37. **Franklinite,** Franklin, New Jersey. Henry G. Hanks.

38. **Zincite and Franklinite,** Franklin, New Jersey. Henry G. Hanks.

39. **Sulphur and Calcite,** Sicily. Henry G. Hanks.

40. **Limonite,** Lake Superior. Henry G. Hanks.

41. **Diallogite,** Austin, Nevada. Henry G. Hanks.

42. **Tufa,** Kern County, California. Henry G. Hanks.

43. **Silver Ore,** Al. Bunnell Lode, Kern County, California. Henry G. Hanks.

44. **Hubnerite,** Nye County, Nevada. Henry G. Hanks.

45. **Cinnabar,** Wall Street Mine, Lake County, California. Henry G. Hanks.

46. **Native Copper in Breccia,** Lake Superior. Henry G. Hanks.

47. **Chromic Iron,** Cloverdale, Sonoma County, California. Henry G. Hanks.

48. **Coarse Granite—Pink Orthoclase.** Henry G. Hanks.

49. **Drusy Quartz,** Alpine County, California. Henry G. Hanks.

50. **Quartz Crystals,** Placer County, California. Henry G. Hanks.

51. **Selenite,** Nova Scotia. Henry G. Hanks.

52. **Gneiss,** Near Sacramento. Henry G. Hanks.

53. **Carboniferous Limestone,** White Pine, Nevada. Henry G. Hanks.

54. **Copper Ore,** Carbonate ore, Skaggs' Springs, Sonoma County, California. D. Cozzens.

55. **Silicified Wood,** Nevada County, California. H. G. Hanks.

56. **Hematite,** Iron Mountain, Missouri. Henry G. Hanks.

57. **Chrome Iron,** Twelve miles from San Juan, San Luis Obispo County, California.

58. **Tourmaline in Quartz,** New York. Henry G. Hanks.

59. **Marble (white),** Fifteen miles from Monterey, California. Henry G. Hanks.

60. **Quartz Concretion,** Esmeralda County, Nevada. Henry G. Hanks.

61. **Quicksilver,** Clear Quill Mine, Greenville District, Sonoma County, California, one mile from Great Eastern Mine. Henry G. Hanks.

62. **Silver Ore,** Wallapai District, Arizona. Henry G. Hanks.

63. **Quicksilver,** Wall Street Mine, Lake County, California.

64. **Chalcedony,** Volcano, Amador County, California. Henry G. Hanks.

65. **Magnetite,** Sutter Creek, Amador County, California. Henry G. Hanks.

66. **Sulphur,** Humboldt County, Nevada. Henry G. Hanks.

67. **Silver Lead Ore,** Comanche Mine, Mono County, California.

68. **Silver Ore,** Geddes & Bertrand Mine, near Eureka, Nevada. D. F. Verdenal.

69. **Clay,** Ione Valley, Amador County, California. Judge S. Heydenfeldt.

70. **Pyrope,** Arizona. Captain T. Buckley.

71. **Solar Salt,** Ten miles from Panamint, Inyo County California. James A. Pritchard.

72. **Silver Ore,** New Coso Mining District, Inyo County California. D. F. Verdenal.

73. **Argentiferous Galena,** New Coso Mining District, Inyo County, California. D. F. Verdenal.

74. **Silver Ore,** New Coso Mine, New Coso Mining District, Inyo County, California. D. F. Verdenal.

75. **Silver Ore,** Rye Patch Mine, Humboldt County, Nevada. D. F. Verdenal.

76. **Gold Quartz,** St. Patrick Mine, Placer County, California.

77. **Chalcopyrite,** Mariposa County, California, near Hornitos. T. J. Owens.

78. **Silver Ore,** Bay State Mine, Owyhee County, Idaho. T. J. Owens.

79. **Silver Ore,** Belmont, Nevada. T. J. Owens.

80. **Silver Ore,** Belmont Mining Company, Nye County, Nevada. T. J. Owens.

81. **Silver Ore,** Peytona Mine, Comstock Lode, Virginia, Nevada. T. J. Owens.

82. **Silver Ore,** Ward Beecher Mine, White Pine, Nevada. M. Attwood.

83. **Silver Ore,** Ophir Mine, Comstock Lode, Virginia, Nevada. H. A. Cobb.

84. **Chalcedony,** Volcano, Amador County, California. Charles S. Capp.

85. **Silver Ore,** Yellow Jacket Mine, Comstock Lode, Virginia, Nevada. H. A. Cobb.

86. **Cinnabar,** Guadalupe Mine, Santa Clara County, California. M. Dore.

87. **Hematite,** Ione Valley, Amador County, California. Judge S. Heydenfelt.

88. **Silver Ore,** Lone Star Mine, Wallapai County, Arizona. Sam. C. Lewis.

89. **Silicified Wood,** Downieville, Sierra County, California, two hundred feet under ground. T. J. O'Keiffe.

90. **Silicified Wood,** Downieville, Sierra County, California. T. J. O'Keiffe.

91. **Silver Copper Ore,** Wyoming Mine, Panamint, Inyo County, California. James. A. Pritchard.

92. **Silver Ore,** Minietta Belle Mine, Lookout District, Inyo County, California. G. McNeir.

93. **Gold in Quartz,** Good Friday Mine, Placer County, California. Manuel Laine.

94. **Jasper,** Potrero, San Francisco, California. Manuel Laine.

95. **Silver Ore,** Calistoga Mine, Napa County, California. D. F. Verdenal.

96. **Gold in Pyrites (cut),** Drytown, Amador County, California. Manuel Laine.

97. **Silver Ore,** Athens Mine, Pioneer District, Pinal County, Arizona. James T. Godfrey.

98. **Gold and Silver Ore,** Golden Chariot Mine, Idaho. T. J. Owens.

99. **Moss Agate,** Salt Lake City, Utah. Manuel Laine.

100. **Gold Quartz,** Cedarberg Mine North, El Dorado County, California. J. A. Morrell.

101. **Silver Ore,** Hackberry Mine, Mohave County, Arizona. E. Martin Smith.

102. **Gold Ore,** Connor Creek, Arizona. William G. Lent.

103. **Grossular Garnet,** Peavine District, Washoe county, Nevada. E. B. Smith.

104. **Silver Ore,** Tiger Mine, Coso District, Inyo County, California. W. D. Brown.

105. **Silver Ore,** Georgetown, Connecticut. P. M. Wellin.

106. **Cinnabar,** Steamboat Springs, Washoe, Nevada. U. Boynton.

107. **Artificial Fuel,** Wyoming Coal Mine, Washington Territory. T. J. Owens.

108. **Ironstone Concretion,** Sixes River, Curry County, Oregon. E. W. McGraw.

109. **Sulphur,** Steamboat Springs, Washoe County, Nevada. U. Boynton.

110. **Bituminous Shale,** Monterey County, California. E. Bosqui.

111. **Gold Ore,** Alaska Mine, Sierra County, California. George W. McNeir.

112. **Silicified Wood,** Nevada County, California. W. D. Brown.

113. **Silver Ore,** El Dorado Mine, White Pine District, Nevada. George W. McNeir.

114. **Silver Ore,** Panamint, Inyo County, California. James A. Pritchard.

115. **Lignite,** Sixes River, Curry County, Oregon. E. W. McGraw.

116. **Cuban,** Queen of Bronze Mine, Josephine County, Oregon. U. Boynton.

117. **Magnetite,** Feather River, near Gold Lake, Plumas County, California. U. Boynton.

118. **Copper Ore,** San Bernardino County, California. James A. Pritchard.

119. **Silver Ore,** Near Tucson, Arizona. S. Heydenfelt, Jr.

120. **Gold Ore,** Boynton Mine, near Soledad, Monterey County, California. U. Boynton.

121. **Gold Ore,** Keeney Mine, Nevada. U. Boynton.

122. **Cinnabar and Pyrites,** Guadalupe Mine, near San José, Santa Clara County, California. M. Dore.

123. **Silver Ore,** San José Mine, San Antonio District, Lower California, Mexico. J. B. G. Isham.

124. **Gold in Quartz,** Good Friday Mine, Placer County, California. Manuel Laine.

125. **Gypsum—Selenite,** Lower California. S. Heydenfelt, Jr.

126. **Copper Ore,** Diamond Mine, Del Norte County, California. U. Boynton.

127. **Gold Quartz,** Railroad District, Nevada. U. Boynton.

128. **Silver Ore,** Silver Belle Mine, Newfoundland District, Nevada. S. Heydenfelt, Jr.

129. **Silver Ore,** Silver King Mine, Pinal County, Arizona. S. Heydenfelt, Jr.

130. **Litharge,** San Bernardino County, California. W. D. Brown.

131. **Silver Ore (float),** Sierra Nevada Range, Apache Pass, Arizona. W. D. Brown.

132. **Black Dyke,** East Wall, Comstock. M. Attwood.

133. **Stalagmite,** Calaveras County, California. W. H. V. Cronise.

134. **Tin Ore,** Temescal, San Bernardino County, California. Temescal Tin Company.

135. **Silver Ore,** Chloride Flat, Newfoundland District, Nevada. S. Heydenfeldt, Jr.

136. **Copper Ore,** Soledad Mine, Durango, Mexico. S. Heydenfelt, Jr.

137. **Arsenious Acid,** Common white arsenic, from works at Swansea, imported into San Francisco to be used in the manufacture of shot. Selby Lead and Smelting Company.

138. **Hacked Quartz with Gold,** Shasta County, California.

139. **Ore,** From Venando Gold Mine, Napa County, California, 5 miles from St. Helena. S. Heydenfeldt, Jr.

140. **Silver and Gold Ore,** "Al. Bunnell," Kernville, Kern County, California.

141. **Marble,** Near Angel's Camp, Calaveras County, California. M. Cohen.

142. **Gold Quartz,** San Diego County, California, S. Heydenfeldt, Jr.

143. **Quicksilver Ore,** Oakland Mine, Sonoma County, California. W. W. Traylor.

144. **Gold Quartz,** Nevada Mine, Nevada County, California.

145. **Silver Ore,** Badger Con. Mine, Elko County, Nevada. W. R. Townsend.

146. **Silver Ore,** Devil's Gate District, Lyons County, Nevada. Adolph Bingham.

147. **Quartz Crystals,** California. S. Heydenfeldt, Jr.

148. **Silver Ore,** Great Western Mine, Panamint, Inyo County, California. W. D. Brown.

149. **Silver Ore,** Great Eastern Mine, Panamint, Inyo County, California. W. D. Brown.

150. **Silver Ore,** Grand Mine, Coso District, Inyo County, California. W. D. Brown.

151. **Copper Ore,** (Two specimens), Great Republic Mine, Mount Diablo, Contra Costa County, California. Secretary of Company.

152. **Copper Bars,** Great Republic Mine, Mount Diablo, Contra Costa County, California. Secretary of Company.

153. **Silver Ore (wire silver),** Overman Mine, four hundred-foot level, Virginia, Nevada. T. J. Owens.

154. **Garnets,** Robinson District, Nevada. Mrs. M. A. Winall.

155. **Pebbles and Shells,** Gulf of California. S. Heydenfeldt, Jr.

156. **Asphaltum,** One half mile from San Luis Obispo. U. Boynton.

157. **Priceite,** Borate of lime, Curry County, Oregon. W. B. Mason. [This is an exceedingly rare mineral, which very much resembles Cryptomorphite; named after Thomas Price, assayer, of San Francisco.]

158. **Asbestus,** Italy. U. Boynton.

159. **Mica,** El Dorado County, California. U. Boynton.

160. **Copper Ore—Erubescite,** Nacosari Mine, Sonora, Mexico. Alexander O'Neil.

161. **Silver Ore,** Ophir Mine, Virginia, Nevada. C. L. Milles.

162. **Silver Ore,** (Four specimens), Socorro Mine, Guatemala. A. M. Comstock.

163. **Gold Ore,** Golden Terra Mine, Deadwood, Dakota. J. W. Bailey.

164. **Silver Ore,** Gould & Curry Mine, Virginia, Nevada. H. K. Durbrow.

165. **Limestone—Calcite,** Santa Cruz, California. H. T. Holmes & Co.

166. **Silver Ore,** Reforma Mine, Lower California. F. Vassault.

167. **Clay,** Mount Diablo, Contra Costa County, California. H. T. Holmes & Co.

168. **Gypsum,** Nevada. H. T. Holmes & Co.

169. **Slab of Plaster of Paris,** (Artificial). H. T. Holmes & Co.

170. **Ulexite—Borate of Lime,** Humboldt, Nevada. A. M. Comstock.

171. **Gold Quartz,** Talisman Mine, Amador County, California. Judge S. Heydenfeldt.

172. **Steatite—Soapstone,** Placer County, California. H. T. Holmes & Co.

173. **Chromic Iron** (?), San José. Kruse & Euler.

174. **Chromic Iron,** Cloverdale, Sonoma County, California. Kruse & Euler.

175. **Diatomaceous Earth,** Ione Valley, Amador County, California. Judge S. Heydenfeldt.

176. **Chromic Iron,** Location unknown. Kruse & Euler.

177. **Chalcedony,** Seattle, Washington Territory. J. A. Suffern.

178. **Sedimentary Rock,** San Francisco, California. Henry G. Hanks.

179. **Lignite Rock,** Eureka District, Nevada. A. M. Comstock.

180. **Quicksilver Ore,** Los Preitos Mine, Santa Barbara, California.

181. **Cement,** Portland, England. H. T. Holmes & Co.

182. **Cement,** Benicia, California. H. T. Holmes & Co.

183. **Cement,** Niles, Alameda County, California. H. T. Holmes & Co.

184. **Martin's Cement,** Derby, England. H. T. Holmes & Co.

185. **Copper Ore,** Soledad Mine, Durango, Mexico. M. Harben.

186. **Clay,** Ione, Amador County, California. Judge S. Heydenfeldt.

187. **Realgar,** Seattle, Washington Territory. John A. Suffern.

188. **Tufa,** Santa Cruz, California. H. T. Holmes & Co.

189. **Scheelite with Tourmaline,** Seattle, Washington Territory. John A. Suffern.

190. **Silver Ore,** (Three specimens), San Juan Lode, Guatemala. A. M. Comstock.

191. **Silver Ore,** (Seven specimens), Plumas Mine, Guatemala. A. M. Comstock.

192. **Slickensides,** Crown Point Mine, Gold Hill, Storey County, Nevada. Henry Balch.

193. **Quartz Crystals cut,** (Ten specimens). Laine & Son.

194. **Frear Stone,** (Artificial). B. Wegener.

195. **Silver Ore,** Maggie Mine, Owyhee County, Idaho. L. Franconi.

196. **Copper Ore,** Grizzly Mine, eighteen miles northwest of Healdsburg, Sonoma County, California. Captain Litton.

197. **Erubescite and Chalcopyrite,** Nacosari Mine, Sonora, Mexico. William M. Lent.

198. **Lava,** Mendocino County, California. F. Williams.

199. **Flagstone,** Hudson River, New York. F. Williams.

200. **Silver Ore,** Arizona. Mrs. M. H. Grattan.

201. **Copper Ore—Chalcosite,** Vermont Mine, Globe District, Pinal County, Arizona. Alexander O'Neil.

202. **Silver Ore,** Componero Mine, Sonora, Mexico. Alexander O'Neil.

203. **Coal,** Bellingham Bay, Washington Territory. J. Henderson, Jr.

204. **Coal,** Newport, Coos Bay, Oregon. J. Henderson, Jr.

205. **Coal,** Wellington, Vancouver Island. J. Henderson, Jr.

206. **Coal,** Seattle, Washington Territory. J. Henderson, Jr.

207. **Coal,** Eastport, Coos Bay, Oregon. J. Henderson, Jr.

208. **Coal,** Henrysville, Coos Bay, Oregon. J. Henderson, Jr.

209. **Coal,** Talbot Mine, Seattle, Washington Territory. J. Henderson, Jr.

210. **Moss Agate (cut).** M. Laine & Son.

211. **Malachite (cut),** Australia. Laine & Son.

212. **Lava,** Vesuvius. Mrs. M. H. Grattan.

213. **Granite,** No. 1, Cape Ann, Massachusetts. F. Williams.

214. **Granite,** Newcastle, Placer County, California. F. Williams.

215. **Granite,** Hong Kong, China. F. Williams.

216. **Granite,** Folsom, Sacramento County, California. F. Williams.

217. **Granite,** Rocklin, Placer County, California. F. Williams.

218. **Silver Ore,** From ledge one hundred and twelve feet wide, Sutro tunnel, Storey County, Nevada, twelve thousand five hundred feet from mouth. T. W. Ames.

219. **Lava,** Napa County, California. F. Williams.

220. **Granite,** Quincy, Massachusetts. F. Williams.

221. **Flagstone,** Scotland. F. Williams.

222. **Sedimentary Rock,** Cliff House, San Francisco. S. Heydenfelt, Jr.

223. **Gold and Albite,** Muletes Mine, Sonora, Mexico. William M. Lent.

224. **Gypsum** (Two specimens), St. Marcus Island, Gulf of California. Golden Gate Plaster Mill.

225. **Gypsum** (Two specimens), St. Marcus Island, Gulf of California. Golden Gate Plaster Mill.

226. **Gypsum,** St. Marcus Island, Gulf of California. Golden Gate Plaster Mill.

227. **Gypsum,** St. Marcus Island, Gulf of California. Golden Gate Plaster Company.

228. **Gold Quartz,** Colusa County, California. William M. Lent.

229. **Gold Quartz and Iron Pyrites,** St. Patrick Mine, Placer County, California.

230. **Chrysocolla,** San Diego County, California. F. Franconi.

231. **Cuprite** (?), Nevada. F. Franconi.

232. **Gold Quartz**, Mariposa, California. Wm. M. Lent.

233. **Silver Ore**, Daisy Dean Mine, Cedar District, Arizona. L. Franconi.

234. **Vitreous Copper—Chalcocite**, San Diego County, California. L. Franconi.

235. **Tin Ore**, San Jacinto Mine, Temescal, San Bernardino County, California. L. Franconi.

236. **Silver Ore**, Minietta Belle Mine, Lookout District, Inyo County, California. L. V. B. Howell.

237. **Slate and Pyrites**, Mariposa Tunnel, two thousand six hundred and twenty-foot point, Mariposa County, California. Colonel Wm. Thorpe.

238. **Graphite**, Sixty miles northeast of Guaymas, Mexico. I. N. Thorn.

239. **Gold Quartz**, Kentuck Mine, Long Tom District, Kern County, California. J. G. Fair.

240. **Diatomaceous Earth**, Los Angeles, California. Charles G. Gale.

241. **Clay**, Comanche Mine, Mono County, California. H. M. Levy.

242. **Dolerite**, East wall, Comanche Mine, Mono County; California. H. M. Levy.

243. **Garnets in Mica Schist**, Thirty miles northeast of San José, California. E. Burch.

244. **Pyrargyrite**, Atlanta Mine, Alturas County, Idaho.

245. **Silver in Gangue**, Athens Mine, Pioneer District, Pinal County, Arizona. George McNeir.

246. **Copper Glance** (?), Los Angeles County, California. Charles G. Yale.

247. **Quartzite**, Southern part of Los Angeles County, California. M. Laine & Son.

248. **Clay Slate,** Mount Hamilton, Santa Clara County, California. E. Burch.

249. **Gold Quartz with mass of Sulphurets,** Golden Gate Mine, two miles from Sonora, Tuolumne County, California. W. F. Kerrick.

250. **Tripoli,** Venice. Laine & Son.

251. **Soda,** Soda Lake, Churchill County, Nevada. C. G. Yale.

252. **Gay Lussite,** Soda Lake, Churchill County, Nevada. Charles G. Yale.

253. **Gold in Cap Rock,** Alpha Mine, Black Hills, Dakota. J. G. Fair.

254. **Silver Ore,** Maggie Mine, Franconi City, thirteen miles south of Silver City, Owyhee, Idaho. L. Franconi.

255. **Silver Ore,** Comanche Mine, Mono County, California. H. M. Levy.

256. **Partzite,** Kerrick Mine, Benton, Mono County, California. H. M. Levy.

257. **Gold Quartz,** Golden Virgin Mine, Mariposa County, California. William M. Lent.

258. **Chalcedony,** Near Tucson, Pima County, Arizona. T. J. Owens.

259. **Gold Quartz,** Nevada County, California. G. McNeir.

260. **Turquoise,** Columbus, Esmeralda County, Nevada. George D. Roberts.

261. **Aragonite,** Suisun, Solano County, California. J. & F. Kesseler.

262. **Silver Ore,** (Six specimens), Silver King Mine, Pioneer District, Pinal County, Arizona. James M. Barney.

263. **Silver Ore with Gold,** Near Caliente, Kern County, California. D. C. Ferris.

264. **Marble (white),** Rutland, Vermont. J. & F. Kesseler.

265. **Marble,** Tennessee. J. & F. Kesseler.

266. **Marble,** Bear Creek, three miles from Colfax. Nevada County, California. J. & F. Kesseler.

267. **Marble,** Abby's Ferry, Tuolumne County, California. J. & F. Kesseler.

268. **Kaolin,** Kern County, California. Tod Robinson.

269. **Silver Ore,** Azurite, Castle Dome District, Yuma County, Arizona. D. C. Ferris

270. **Silver Ore,** Imperial Mine No. 2, Globe District, Pinal County, Arizona. A. T. Webb.

271. **Silver Ore,** Castle Dome District, Yuma County, Arizona. D. C. Ferris.

272. **Gold Quartz,** Keystone Mine, Amador County, California. J. Skinker.

273. **Silver Ore and Copper,** Near Elko, Nevada. D. C. Ferris.

274. **Silver Ore,** Silver King District, Kern County, California. John Skinker.

275. **Silver Ore,** Kern County, California. D. C. Ferris.

276. **Silver Ore,** Silver King Mine, Pinal County, Arizona. James M. Barney.

277. **Silver Ore,** (Three specimens), Pioneer District, Pinal County, Arizona. B. W. Reagan.

278. **Gold in Quartz,** Mariposa County, California. Miss F. A. Lent.

279. **Gold Quartz,** Cerro Gordo Mine, Inyo County, California. U. Boynton.

280. **Cinnabar,** Oceanic Quicksilver Mine, San Luis Obispo County, California. D. C. Ferris.

281. **Silver Ore,** Grand Prize Mine, Tuscarora, Elko County, Nevada. S. Linkton.

282. **Wall Rock,** Grand Prize Mine, Tuscarora, Elko County, Nevada. S. Linkton.

283. **Hematite,** Vein matter, Grand Prize Mine, Tuscarora, Elko County, Nevada. S. Linkton.

284. **Silver Ore,** Grand Prize Mine, Tuscarora, Elko County, Nevada. S. Linkton.

285. **Copper Ore—Melaconite,** Rabbit Hole Range, Humboldt County, Nevada. A. W. Blair.

286. **Silver Ore,** Sinaloa Mine, eighty miles from Mazatlan, Mexico. T. J. Owens.

287. **Clay Vein Matter,** Grand Prize Mine, Tuscarora, Elko County, Nevada. S. Linkton.

288. **Cinnabar,** El Dorado County, California. John Skinker.

289. **Gay Lussite on Branch,** Soda Lake, Churchill County, Nevada. George W. Stone.

290. **Gay Lussite,** Soda Lake, Churchill County, Nevada. George W. Stone.

291. **Soda,** Soda Lake, Churchill County, Nevada. Geo. W. Stone.

292. **Silver Ore,** Consolidated Virginia Mine, Virginia, Nevada, one thousand five hundred and fifty-foot level. Alfred W. Havens.

293. **Gold Quartz,** Big Blue Lead, Kern County, California. John Skinker.

294. **Sulphur,** Pacific Sulphur Company, near Humboldt, Nevada. John Skinker.

295. **Galena,** San Bernardino County, California. John Skinker.

296. **Lead Ore,** Globe Mine, Pinal County, Arizona.

297. **Silver Ore,** California Mine, Comstock Lode, Virginia, Nevada, one thousand six hundred-foot level. Alfred W. Havens.

298. **Silver Ore,** Silver King Mine, Pioneer District, Pinal County, Arizona. James M. Barney.

299. **Silver Ore,** Silver King Mine, Pioneer District, Pinal County, Arizona. James M. Barney.

300. **Silver Ore,** Silver King Mine, Pioneer District, Pinal County, Arizona. James M. Barney.

301. **Magnetite,** Butte County, California. D. C. Ferris.

302. **Cuprite,** Humboldt County, Nevada. Mr. Blair.

303. **Lead Ore—Galena,** Globe Mine, Pinal County, Arizona.

304. **Silicified Wood,** Columbia, Tuolumne County, California, sixty feet from surface, between lava and clay. A. M. Mitchell.

305. **Lignite,** Boney Mine, Vallecito, Calaveras County, California. A. M. Mitchell.

306. **Peridot,** Arizona. M. Laine.

307. **Hematite,** Fredericktown, Missouri. Henry G. Hanks.

308. **Limonite,** Fredericktown, Missouri. Henry G. Hanks.

309. **Limonite,** Fredericktown, Missouri. Henry G. Hanks.

310. **Fossil Resin,** New Zealand. Henry G. Hanks.

311. **Conglomerate,** McCloud River, Shasta County, California. Henry G. Hanks.

312. **Old Red Sandstone,** Binghampton, New York. Henry G. Hanks.

313. **Argentite** (?), Minietta Belle Mine, Inyo County, California. J. J. Dolan.

314. **Chalcopyrite,** Union Mine, Copperopolis, Calaveras County, California. George McNeir.

315. **Silver Ore,** Silver King Mine, Pioneer District, Pinal County, Arizona. J. W. Gashwiler.

316. **Banded Obsidian,** Clear Lake, Lake County, California. Henry G. Hanks.

317. **Cinnabar,** Phœnix Quicksilver Mine, twenty miles from St. Helena, head of Pope Valley, Lake County, California. H. B. Callahan.

318. **Wall Rock,** Yellow Jacket Mine, Comstock Lode, Virginia, Nevada, one thousand seven hundred and forty-foot level. M. Attwood.

319. **Silver Ore,** Great Western Mine No. 2, Panamint, Inyo County, California. Benjamin Morgan.

320. **Gold Quartz,** Glencoe Mine, Calaveras County, California. L. Leavitt.

321. **Wall or Country Rock,** With two mounted microscopic slides from face of Sutro tunnel, one thousand six hundred feet below surface, sixteen thousand two hundred and forty feet in the tunnel, in which was found a piece of carbonized wood, Storey County, Nevada. P. N. Mackay.

322. **Chromic Iron Ore,** San Luis Obispo, California. Kruse & Euler.

323. **Silver Ore,** Rye Patch Mine, Humboldt County, Nevada. J. W. Gashwiler.

324. **Silver Ore,** Rye Patch Mine, Humboldt County, Nevada. J. W. Gashwiler.

325. **Gold Quartz,** Shanghai Mine, near Columbia, Tuolumne County, California. J. W. Gashwiler.

326. **Granite—Polished,** Rocklin, Placer County, California. Con. O'Connor.

327. **Iron Concretion,** Bald Hill, Placer County, California. Charles Purdy.

328. **Asphaltum Pierced by Shells,** Los Angeles County, California. Henry G. Hanks.

329. **Stalactite,** California. Henry G. Hanks.

330. **Gold Quartz,** St. Patrick Mine, Placer County, California. J. W. Gashwiler.

331. **Silver Ore,** Highland Mine, Panamint, Inyo County, California. Benjamin Morgan.

332. **Gold Quartz,** Virginia Mine, Grass Valley, Nevada County, California. Henry G. Hanks.

333. **Silver Ore,** Huron Mine, Panamint, Inyo County, California. B. Morgan.

334. **Crystals of Tetrahedrite Coated with Crystals of Chalcopyrite,** Cornwall, England. Henry G. Hanks.

335. **Nematite—Brucite,** Hoboken, New Jersey. H. G. Hanks.

336. **Diorite,** Crosscut from C. C. shaft, Con. Virginia Mine, Virginia, Nevada, one thousand six hundred and fifty-foot level. J. M. Taylor.

337. **Moss Agate,** Utah. M. Laine.

338. **Aragotite,** A new hydro-carbon, California Quicksilver Mine, Yolo County, California. John Winterburn. [See proceedings California Academy of Sciences, Vol. 4, page 218.]

339. **Artificial Stone—Ransome Stone.** Henry G. Hanks.

340. **Carbonized Wood,** Sutro Tunnel, Storey County, Nevada. [See 321.] P. N. Mackay.

341. **Pyromorphite,** Cornwall, England. Henry G. Hanks.

342. **Copper Ore,** Calaveras County, California. J. L. Murphy.

343. **Silver Ore,** Huron Mine, Panamint, Inyo County, California. B. Morgan.

344. **Gold Quartz,** California Con. Mine, Gold Tunnel, Nevada County, California. J. W. Gashwiler.

345. **Silver Ore,** Great Western Mine No. 1, Panamint, Inyo County, California. B. Morgan.

346. **Gold Quartz,** Corona Mine, Humboldt Station, Humboldt County, Nevada. J. W. Gashwiler.

347. **Gold Quartz,** Shanghai Mine, near Columbia, Tuolumne County, California. J. W. Gashwiler.

348. **Calcite,** Inyo County, California. Henry G. Hanks.

349. **Quicksilver Ore,** Sulphur Bank Quicksilver Mine, nine miles northwest from Lower Lake, Lake County, California. H. B. Calahan.

350. **Copper Ore** (?), Eagle Copper and Silver Mine, Calaveras County, California. J. L. Murphy.

351. **Pyrites,** Morning Star Mine, Alpine County, California.

352. **Talc,** Seven miles from Mount Hamilton, Santa Clara County, California. S. Heydenfeldt, Jr.

353. **Travertine Showing Fossil Leaves,** Livingston County, New York. S. Heydenfeldt, Jr.

354. **Gypsum and Selenite,** Lockwood Creek, Ventura County, California, sixty miles south of Bakersfield. A. W. Blair.

355. **Tetrahedrite** (?) **Silver Ore,** Rising Star Mine, Flint District, Idaho. J. M. Classen.

356. **Silver Ore with Galena,** Silver King Mine, Pioneer District, Pinal County, Arizona. P. T. Nougues.

357. **Silver Ore,** Sacaton Mine, Pasago Mountains, Arizona. P. T. Nougues.

358. **Tourmaline,** Near Battle Creek, Columbia District, Humboldt County, Nevada. A. W. Blair.

359. **Silver Ore,** Nabob Mine, one mile northwest of Silver King, Pioneer District, Pinal County, Arizona. A. W. Blair.

360. **Silver Ore,** East Union Mine, Pioneer District, Pinal County, Arizona. A. W. Blair.

361. **Silver Ore,** San Bernardino County, California. William Utter.

362. **Gypsum,** Lockwood Creek, Los Angeles County, California. A. W. Blair.

363. **Gold Quartz,** Pioneer Mine, Granite Creek, Idaho. J. M. Classen.

364. **Cerargyrite,** Poorman Mine, Idaho. J. M. Classen.

365. **Silver Ore,** Pasago Mountains, eighty miles from Florence, Pinal County, Arizona. P. T. Nougues.

366. **Obsidian,** Glass Mountain, near St. Helena, Napa County, California. Miss B. A. Grattan.

367. **Ione Coal,** Near Ione, Amador County, California. M. Attwood.

368. **Cuprite,** Near Battle Creek, Columbia District, Humboldt County, Nevada. A. W. Blair.

369. **Silver Ore,** Ouaharte Mine, Pasago Mountains, Arizona. P. T. Nougues.

370. **Rich Gold Quartz,** Fall Creek Mining Company, Nevada County, California. George W. Kidd.

371. **Silver Ore,** East Union Mine, Pioneer District, Arizona. A. W. Blair.

372. **Gold Quartz,** Golden Chariot Mine, War Eagle, Idaho. J. M. Classen.

373. **Clay,** Ione, Amador County, California. M. Attwood.

374. **Coal and Coke,** Wyoming Coal Mine, Wyoming Territory. D. L. Randolph.

375. **Gold Quartz,** Humming Bird Mine, Peru District, Ventura County, California. J. B. Calmes.

376. **Obsidian,** Glass Mountain, near St. Helena, Napa County, California. Miss Bessie A. Grattan.

377. **Silver Ore,** Pacific Lode, Peru District, Ventura County, California. J. B. Calmes.

378. **Silver Ore,** Rose of Sharon Mine, Peru District, Ventura County, California. J. B. Calmes.

379. **Gold Quartz,** Good Hope Mine, Peru District, Ventura County, California. J. B. Calmes.

380. **Ore,** Blue Ledge, Kelsey Flat, El Dorado County, California. J. M. Classen.

381. **Graphite,** Twelve miles from Guaymas, Mexico. Dr. J. B. Trask.

382. **Wall Rock,** General character in Peru District, Ventura County, California. J. B. Calmes.

383. **Compact Lava,** Near St. Helena, Napa County, California. S. Heydenfeldt, Jr.

384. **Galena and Silver Ore,** Peru District, Ventura County, California. J. B. Calmes.

385. **Chalcedony,** Idaho City, Boise County, Idaho. W. A. Sifers.

386. **Aragonite,** Suisun, Solano County, California.

387. **Selenite.** J. C. Jones.

388. **Gold Quartz,** Confidence Mine, Fresno County, California. Ed. A. T. Gallagher.

389. **Gold Quartz,** Peru District, Ventura County, California. J. B. Calmes.

390. **Gold Quartz,** Pitman Mine, Fresno County, California. Ed. A. T. Gallagher.

391. **Indian Implement,** Table Mountain, Calaveras County, California. Henry G. Hanks.

392. **Diatomaceous Earth,** Near Virginia City, Nevada. M. Attwood.

393. **Artificial Paving Stone—Schellenger Stone,** John Henderson, Jr.

394. **Chromic Iron,** Five miles east of San Jose, Santa Clara County, California. W. H. Simpson.

395. **Silver Ore** (Two specimens), Lodi Mine, Silver Peak, Esmeralda County, Nevada. John Collins.

396. **Erubescite,** Nacosari Mine, Mexico. Alex. O'Neil.

397. **Quartzite,** Geysers, Sonoma County, California. S. Heydenfeldt, Jr.

398. **Lignite,** Newport Mine, Coos Bay, Oregon. S. Heydenfeldt, Jr.

399. **Copperas (?) with Turquoise,** Turquoise Ledge, Esmeralda County, Nevada. John Collins.

400. **Rich Silver Ore,** South Stope Con. Virginia Mine, one thousand six hundred and fifty-foot level, lying between the horse and east clay, Virginia, Nevada. M. Attwood.

401. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

402. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

403. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

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406. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

407. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

408. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

409. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

410. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

411. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

412. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

413. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

414. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

415. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

416. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

417. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

418. **Fossil Leaves,** Blue Tent Mine, Nevada, Nevada County, California. D. T. Hughes.

419. **Clay,** Ione Valley, Amador County, California. S. Heydenfeldt, Jr.

420. **Silver Copper Ore,** Indian Queen Mine, Esmeralda County, Nevada. H. M. Levy.

421. **Silver Ore,** Diana Mine, Benton, Mono County, California. H. M. Levy.

422. **Silver Ore,** Grey Eagle Mine, Benton, Mono County, California. H. M. Levy.

423. **Lithomarge,** Alph Mine, Tuolumne County, California. John Collins.

424. **Silicified Wood,** Columbia, Tuolumne County, California. John Collins.

425. **Galena,** Montezuma Mine, Esmeralda County, Nevada. H. M. Levy.

426. **Silver Ore,** Ontario Mine, Uintah District, Summit County, Utah. J. B. Haggin.

427. **Asbestos,** Europe. Salamander Felting Company, California.

428. **Salamander Felting.** Salamander Felting Company, California.

429. **Lead Stalagmite,** Droppings from furnace, Cerro Gordo, Inyo County, California. Henry G. Hanks.

430. **Silver Ore,** Ontario Mine, Uintah District, Summit County, Utah. J. B. Haggin.

431. **Coal,** Vein four feet thick, two and a half miles from Carmelo Bay, Monterey County, California. J. E. Wright.

432. **Wall Rock of 431,** two and a half miles from Carmelo Bay, Monterey County, California. J. E. Wright.

433. **Silver Ore,** Fitzhugh Mine, Oneita, Esmeralda County, Nevada. H. M. Levy.

434. San Gregorio Ranch, San Mateo County, California. John Ralston.

435. **Silver Ore with Native Silver,** Mahogany Mine, Idaho. S. Heydenfeldt, Jr.

436. **Diatomaceous Earth,** San Gregorio, San Mateo County, California. John Ralston.

437. **Argentiferous Galena,** Castle Dome, Yuma County, Arizona. T. J. Owens.

438. **Telluric Gold—Sylvanite,** Malone's Mine, Stanislaus County, California. R. H. Rogers.

439. **Feldspar,** Yosemite Valley, Mariposa County, California. S. Heydenfeldt, Jr.

440. **Glacier Polished Rock,** Yosemite Valley, Mariposa County, California. W. G. Stegman.

441. **Thinolite,** Mono Lake, Mono County, California. W. G. Stegman.

442. **Rock,** Summit Mount Dana, Tuolumne County (?), California. W. G. Stegman.

443. **Pumice,** Mono Lake, Mono County, California. W. G. Stegman.

444. **Diatomaceous Earth,** San Joaquin Valley, seventy miles from Stockton, near San Carlos Ranch, Pacheco Pass. F. Vassault.

445. **Feldspar with Molybdenite,** Yosemite Valley, Mariposa County, California. S. Heydenfeldt, Jr.

446. **Cinnabar,** California Quicksilver Mine, Yolo County, California, three hundred feet from surface. R. G. Hart.

447. **Cinnabar,** Dublin Tunnel, California Quicksilver Mine, Yolo County, California, one hundred and fifty feet from surface. R. G. Hart.

448. **Metacinnabarite,** California Mine, Yolo County, California. R. G. Hart.

449. **Serpentine—Asbestus,** Key's Tunnel, California Mine, Yolo County, California. R. G. Hart.

450. **Stibnite,** Hollister, San Benito County, California. C. C. Jones.

451. **Galena, Pyrites and Quartz,** Battle Mountain, Lander County, Nevada. H. H. Thrall.

452. **Lava,** Sandwich Islands ; cooled under the sea. C. Schneider.

453. **Sandstone,** Near San José, Santa Clara County, California. S. Heydenfeldt, Jr.

454. **Cinnabar,** Wright Tunnel, California Quicksilver Mine, Yolo County, California. R. G. Hart.

455. **Asbestus,** Salamander Felting Company, San Francisco, California.

456. **Gold Quartz—Slickensides,** Al. Bunnell Mine, Kern County, California. L. V. B. Howell.

457. **Feldspar,** Yosemite Valley, Mariposa County, California. S. Heydenfeldt, Jr.

458. **Feldspar,** Yosemite Valley, Mariposa County, California. S. Heydenfeldt, Jr.

459. **Granite,** Yosemite Valley, Mariposa County, California. S. Heydenfeldt, Jr.

460. **Garnets in Mica Schist,** Sitka, Alaska. Captain G. L. Murdock.

461. **Silver Ore,** Superior Mine, Ontonongon River, Michigan. A. B. Paul.

462. **Cement with Gold,** America Mine, North San Juan, Nevada County, California. J. M. Fisher.

463. **Cement with Gold,** America Mine, North San Juan, Nevada County, California. J. M. Fisher.

464. **Cement with Gold,** America Mine, North San Juan, Nevada County, California. J. M. Fisher.

465. **Cement with Gold,** Bald Mountain, Forest City, Sierra County, California. J. M. Fisher.

466. **Cement with Gold,** Golden Star Mine, Alleghany, Sierra County, California. J. M. Fisher.

467. **Manganese Ore,** Hunter's Valley, Mariposa County, California. J. W. Wilcox.

468. **Andalusite,** Moore's Flat, Mariposa County, California. Mr. Gourguet.

469. **Fossil Worms,** Market Street Cut, San Francisco, California. John I. Bleasdale.

470. **Actinolite,** Mariposa Estate, Mariposa County, California. J. W. Wilcox.

471. **Hacked Quartz,** Pine Tree Mine, Mariposa County, California. Col. William Thorpe.

472. **Copper Ore,** Green Vein, Hamlington's District, Mariposa County, California. J. W. Wilcox.

473. **Clay Slate, Bored by Worms,** Mono Lake, Mono County, California. J. W. Wilcox.

474. **Gold Quartz,** Hite Mine, Mariposa County, California. J. W. Wilcox.

475. **Copper Ore,** Hunter's Valley, Mariposa County, California. J W. Wilcox.

476. **Cement (gold),** Con. Grand Mine, Placer County, California. Mr. McGillevry.

477. **Gold Quartz,** Croppings of Josephine Mine, Bear Valley, Mariposa County, California. Col. W. Thorpe.

478. **Gold Quartz,** Mariposa Tunnel, Mariposa County, California, two thousand five hundred-foot point. Col. W. Thorpe.

479. **Gold Quartz,** Josephine Mine, Bear Valley, Mariposa County, California. Col. W. Thorpe.

480. **Gold Quartz,** Union Mine, Carson Hill, Calaveras County, California. Dr. J. B. Trask.

481. **Obsidian,** Sulphur Bank Quicksilver Mine No. 2, Lake County, California. H. B. Calahan.

482. **Obsidian and Sulphur,** Sulphur Bank Quicksilver Mine No. 2, Lake County, California. H. B. Calahan.

483. **Obsidian,** White Ranch, nine miles west of Lower Lake, Lake County, California. H. B. Calahan.

484. **Obsidian, Sulphur, and Cinnabar,** Sulphur Bank Quicksilver Mine No. 2, Lake County, California. H. B. Calahan.

485. **Obsidian,** Occident Mine, Lower Lake, Lake County, California. H. B. Calahan.

486. **Silicified Wood,** Eclipse Mine, seven miles west of Lower Lake, Lake County, California. H. B. Calahan.

487. **Cinnabar,** Eclipse Tunnel, one hundred and thirty feet from mouth, Lake County, California. H. B. Calahan.

488. **Serpentine,** Bear Valley, Mariposa County, California. Col. W. Thorpe.

489. **Serpentine,** Bear Valley, Mariposa County, California. Col. W. Thorpe.

490. **Rock Specimen,** Bear Valley, Mariposa County, California. Col. W. Thorpe.

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511. **Rock Specimen,** Bear Valley, Mariposa County, California. Col. W. Thorpe.

512. **Picrolite,** Bear Valley, Mariposa County, California. Col. W. Thorpe.

513. **Serpentine,** Three hundred yards northeast of Pine Tree Mine, Bear Valley, Mariposa County, California. Col. W. Thorpe.

514. **Gold Quartz,** Princeton Mine, Mariposa County, California. Mr. Gourguet.

515. **Argillite,** Mariposa Tunnel, Mariposa County, California. Col. W. Thorpe.

516. **Rock Specimen,** Mariposa Tunnel, Mariposa County, California, two thousand-foot wall rim. Col. W. Thorpe.

517. **Rock Specimen,** Mariposa Tunnel, Mariposa County, California, two thousand one hundred-foot wall. Col. W. Thorpe.

518. **Vein Matter,** Mariposa Tunnel, Mariposa County, California, two thousand one hundred-foot point. Col. W. Thorpe.

519. **Core of Diamond Drill,** Mariposa Tunnel, Mariposa County, California, two thousand seven hundred and twenty-four-foot point. Col. W. Thorpe.

520. **Core of Diamond Drill,** Mariposa Tunnel, Mariposa County, California, two thousand seven hundred and twenty-four-foot point. Col. W. Thorpe.

521. **Core of Diamond Drill,** Mariposa Tunnel, Mariposa County, California, two thousand seven hundred and twenty-four-foot point. Col. W. Thorpe.

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525. **Core of Diamond Drill,** Mariposa Tunnel, Mariposa County, California, two thousand seven hundred and twenty-four-foot point. Col. W. Thorpe.

526. **Core of Diamond Drill,** Mariposa Tunnel, Mariposa County, California, two thousand seven hundred and twenty-four-foot point. Col. W. Thorpe.

527. **Rock Specimen,** Mariposa Tunnel, Mariposa County, California, two thousand nine hundred and twenty-eight-foot point. Col. W. Thorpe.

528. **Rock Specimen,** Mariposa Tunnel, Mariposa County, California, two thousand nine hundred and fifty-foot point. Col. W. Thorpe.

529. **Rock Specimen**, Heading Mariposa Tunnel, Mariposa County, California, two thousand nine hundred and seventy-eight-foot point. Col. W. Thorpe.

530. **Rock Specimen**, Princeton Mine, Mariposa County, California. Mr. Gourguet.

531. **Gold Quartz with Hematite and Free Gold**, Aurora Mine, Black Hills, Dakota. Tod Robinson.

532. **Gold Quartz and Chlorite Slate**, Occidental Mine, Black Hills, Dakota. Tod Robinson.

533. **Gold in Chlorite Slate with Hematite**, Wooley Mine, Black Hills, Dakota. Tod Robinson.

534. **Gold with Hematite**, Clara Mine No. 2, Black Hills, Dakota. Tod Robinson.

535. **Gold Quartz**, Clara Mine, Black Hills, Dakota. Tod Robinson.

536. **Gold Quartz**, Hoodlebug Mine, Black Hills, Dakota. Tod Robinson.

537. **Gold with Hematite**, Hidden Treasure Mine, Black Hills, Dakota. Tod Robinson.

538. **Silver Ore**, Black Hills, Dakota. Tod Robinson.

539. **Silver Ore** (?), Black Hills, Dakota. Tod Robinson.

540. **Crystalized Metacinnabarite**, California Mine, Yolo County, California. R. G. Hart.

541. **Producta**, Mitchell Coal Mine, twenty-three miles from Eureka, Nevada. H. K. Mitchell.

542. **Silver Ore**, Black Hills, Dakota. Tod Robinson.

543. **Asphaltum**, Santa Barbara County, California. Henry G. Hanks.

544. **Serpentine**, Fort Point, San Francisco, California. G. F. Marion.

545. **Silver Ore**, Barreteros Mine, Mexico. F. Vassault.

546. **Chalcedony**, Murphy's, Calaveras County, California. E. Cutting.

547. **Diatomaceous Earth**, Forty miles north of San Diego, California. Henry G. Hanks.

548. **Hornblende**, Santa Barbara Mountains, California. G. F. Marion.

549. **Fossils**, Mitchell Coal Mine, twenty-three miles from Eureka, Eureka County, Nevada. H. K. Mitchell.

550. **Graphite**, Six miles from Carson City, Ormsby County, Nevada. Judge S. Heydenfeldt.

551. **Jasper**, Murphy's, Calaveras County, California. E. Cutting.

552. **Cinnabar**, Pomposa Mine, Santa Barbara County, California. George F. Marion.

553. **Limonite**, Murphy's, Calaveras County, California. E. Cutting.

554. **Serpentine**, Fort Point, San Francisco, California. G. F. Marion.

555. **Picrolite**, Fort Point, San Francisco, California. G. F. Marion.

556. **Aragonite Polished**, Suisun, Solano County, California. Henry G. Hanks.

557. **Diatomaceous Earth** (?), Staples Ranch, San Joaquin County, California.

558. **Silver Ore**, Centennial Mine, Inyo County, California. Dr. Barber.

559. **Jasper**, Near St. Helena, Napa County, California. Mrs. W. H. Grattan.

560. **Cinnabar and Quartz**, Guadalupe Mine, Santa Clara County, California. H. A. Cobb.

561. **Copper Ore**, Walker River, Esmeralda County, Nevada. William H. Richards.

562. **Gold Quartz.** John P. Bacon.

563. **Ferruginous Clay,** Ione Valley, Amador County, California. Judge S. Heydenfeldt.

564. **Rock Specimen,** Near St. Helena, Napa County, California. S. Heydenfeldt, Jr.

565. **Limestone,** San Bernardino County, California. H. T. Holmes & Co.

566. **Gold Quartz,** Dutch Boy's Mine, near Railroad Flat, Calaveras County, California. W. F. Herrick.

567. **Rock Specimen,** Ione Valley, Amador County, California. Charles Gwynn.

568. **Trachyte,** Near St. Helena, Napa County, California. Mrs. W. H. Grattan.

569. **Jasper,** Near St. Helena, Napa County, California. Mrs. W. H. Grattan.

570. **Cinnabar,** Guadalupe Mine, Santa Clara County, California. H. A. Cobb.

571. **Gold Quartz,** Hackendorn Mine, Blue Mountain, Calaveras County, California. W. F. Herrick.

572. **Gold Quartz,** Farrall Mine, James Bar, Mokelumne River, Calaveras County, California. W. F. Burke.

573. **Cobalt** (?) Hardwick Mine, Nevada. H. A. Cobb.

574. **Chalcedony,** Near St. Helena, Napa County, California. Mrs. W. H. Grattan.

575. **Aragonite,** San Luis Obispo County, California. H. T. Holmes & Co.

576. **Silver Ore,** Silver Prince Mine, Peck District, Yavapai County, Arizona. A. Curtin.

577. **Slickenslides,** Yuba County, California. C. Baird.

578. **Steatite,** Yuba County, California. C. Baird.

579. **Magnetite,** Yuba County, California. C. Baird.

580. **Serpentine,** Yuba County, California. C. Baird.

581. **Sulphurets,** Centennial, Hite Mine, seven miles north of Fiddletown, El Dorado County, California. Mr. Gosland.

582. **Calcite,** Cheshire, Connecticut. L. Andrews.

583. **Amygdaloidal Trap,** Southington, Connecticut. L. Andrews.

584. **Marble,** Burlington, Vermont. A. A. P. Ketchum.

585. **Galena,** Newburyport, Massachusetts. L. Andrews.

586. **Malachite,** Cheshire, Connecticut. L. Andrews.

587. **Barite and Malachite,** Cheshire, Connecticut. L. Andrews.

588. **Chalcocite,** Bristol, Connecticut. L. Andrews.

589. **Chalcocite,** Cheshire, Connecticut. L. Andrews.

590. **Trap,** Southington, Connecticut. L. Andrews.

591. **Chalcopyrite,** Vermont. L. Andrews.

592. **Tourmaline,** Middletown, Connecticut. L. Andrews.

593. **Malachite,** Cheshire, Connecticut. L. Andrews.

594. **Malachite,** Cheshire, Connecticut. L. Andrews.

595. **Calcite,** Cheshire, Connecticut. L. Andrews.

596. **Barite,** Cheshire, Connecticut. L. Andrews.

597. **Quartz,** Cheshire, Connecticut. L. Andrews.

598. **Orthoclase,** Middletown, Connecticut. L. Andrews.

599. **Triassic Limestone,** Southington, Connecticut. L. Andrews.

600. **Baryta,** Cheshire, Connecticut. L. Andrews.

601. **Chalcopyrite and Chalcocite,** Bristol, Connecticut. L. Andrews.

602. **Calcite,** Cheshire, Connecticut. L. Andrews.

603. **Chrysocolla,** Cheshire, Connecticut. L. Andrews.

604. **Galenite,** Berlin, Connecticut. L. Andrews.

605. **Galenite,** Bridgewater, New Hampshire. L. Andrews.

606 **Prehnite,** Tariffville, Connecticut. L. Andrews.

607. **Radiated Talc,** Burlington, Connecticut. L. Andrews.

608. **Lepidolite,** Middletown, Connecticut. L. Andrews.

609. **Chalcocite,** Cheshire, Connecticut. L. Andrews.

610. **Blende,** Berlin, Connecticut. L. Andrews.

611. **Triassic Sandstone,** Southington, Connecticut. L. Andrews.

612. **Quartz,** Cheshire, Connecticut. L. Andrews.

613. **Tourmaline,** Middletown, Conn. L. Andrews.

614. **Chalcopyrite,** Island Pond, Canada. L. Andrews.

615. **Datolite,** Cheshire, Connecticut. L. Andrews.

616. **Buhrstone,** Rhode Island. L. Andrews.

617. **Muscovite,** Middletown, Connecticut. L. Andrews.

618. **Oligoclase,** Middletown, Connecticut. L. Andrews.

619. **Albite Crystals,** Middletown, Conn. L. Andrews.

620. **Garnet,** Middletown, Connecticut. L. Andrews.

621. **Barite,** Cheshire, Connecticut. L. Andrews.

622. **Chalcopyrite,** Bristol, Connecticut. L. Andrews.

623. **Limonite,** Salisbury, Connecticut. L. Andrews.

624. **Albite Crystals,** Middletown, Conn. L. Andrews.

625. **Albite Crystals,** Middletown, Conn. L. Andrews.

626. **Fucoid from Triassic Sandstone,** Southington, Connecticut. L. Andrews.

627. **Gold Quartz,** Keystone Mine, east vein, Amador County, California, five hundred and fifty-seven-foot level. Capt. J. M. McDonald.

628. **Gold Quartz,** Keystone Mine, east vein, Amador County, California, five hundred and fifty-seven-foot level. Capt. J. M. McDonald.

629. **Gold Quartz,** Keystone Mine, Amador County, California, west side of vein. Capt. J. M. McDonald.

630. **Gold Quartz,** Keystone Mine, Amador County, California, five hundred and fifty-seven-foot level, Spring Hill vein, one hundred and fifty feet south of Patton. Capt. J. M. McDonald.

631. **Gold Quartz,** Keystone Mine, Amador County, California, five hundred and fifty-seven-foot level, south shaft. Capt. J. M. McDonald.

632. **Wall Rock and Vein Matter,** Keystone Mine, Amador County, California, five hundred and fifty-seven-foot level, east wall. Capt. J. M. McDonald.

633. **Vein Matter with Pyrites,** Keystone Mine, Amador County, California. Capt J. M. McDonald.

634. **Calcite Crystals,** Justice Mine, Comstock Lode, Virginia, Nevada. James S. Kennedy.

635. **Calcite Crystals,** Justice Mine, Comstock Lode, Virginia, Nevada. James S. Kennedy.

636. **Quartz Crystals,** Silver Monarch Mine, Centennial District, Humboldt County, Nevada. O. H. Bogart.

637. **Silver Ore,** Near Sinaloa, Mexico. O. H. Bogart.

638. **Gold Quartz,** St. Lawrence Mine, Placer County, California, near Ophir. O. H. Bogart.

639. **Enargite and Pyrite,** Morning Star Mine, Alpine County, California. O. H. Bogart.

640. **Silver Ore,** Centennial District, Humboldt County, Nevada. O. H. Bogart.

641. **Silver Ore,** Washington Mining Company, Pioneer District, Pinal County, Arizona. O. H. Bogart.

642. **Silver Ore,** Stock Broker Mine, Shoshone District, Nevada. O. H. Bogart.

643. **Silver Ore,** Ayres & Hopkins Mine, Carson City, Ormsby County, Nevada. O. H. Bogart.

644. **Gold Ore,** Premium Mine, Plumas County, California. O. H. Bogart.

645. **Silver Ore with Trachyte,** Sullivan Mine, Gold Hill, Storey County, Nevada. O. H. Bogart.

646. **Silver Ore,** Centennial District, Humboldt County, Nevada. O. H. Bogart.

647. **Group of Quartz Crystals,** Silver Monarch Mine, Humboldt County, Nevada. O. H. Bogart.

648. **Gold with Pyrites,** Providence Mine, Nevada County, California. O. H. Bogart.

649. **Silver Ore,** Belmont, Nye County, Nevada. O. H. Bogart.

650. **Gold Quartz,** Crescent Mine, Plumas County, California.

651. **Silver Ore,** Pauper Mine, Silver City, Idaho. O. H. Bogart.

652. **Vein Matter,** Sullivan Mine, Gold Hill, Storey County, Nevada. O. H. Bogart.

653. **Pyrites,** Jackson, Amador County, California. S. Kendall.

654. **Diatomaceous Earth,** Ten miles north of Petaluma, Sonoma County, California.

655. **Quartzite** (so-called), Eureka Con. Mining Company, Nevada. M. Attwood.

656. **Calcite,** Point San Pedro, San Mateo County, California, eighteen miles south of San Francisco. D. L. Stone.

657. **Calc Spar,** Point San Pedro, San Mateo County, California, eighteen miles south of San Francisco. D. L. Stone.

658. **Scoria,** Point San Pedro, San Mateo County, California, eighteen miles south of San Francisco. D. L. Stone.

659. **Syenite,** Point San Pedro, San Mateo County, California, eighteen miles south of San Francisco. D. L. Stone.

660. **Gold Quartz,** Standard Mine, Bodie District, Mono County, California. William M. Lent.

661. **Silver Ore with Native Silver,** Mine adjoining the Duncan Mine, Marseilles District, Elko County, Nevada. C. B. Mayon.

662. **Wollongongite (?) with Fossils,** Near Elko, Nevada. M. Attwood.

663. **Wollongongite (?) with Fossils,** Near Elko, Nevada. M. Attwood.

664. **Pearl Oyster Shell containing Large Pearl,** South Sea Islands. Sam. Marion.

665. **Sulphur** (crude), Pacific Sulphur Company, Humboldt, Nevada. Anson Maltby.

666. **Refined Sulphur,** Pacific Sulphur Company, Humboldt, Nevada. Anson Maltby.

667. **Gypsum,** Monterey County, California.

668. **Silver Ore,** Schreiber Mine, West Walker Road, Esmeralda County, Nevada. S. Whitman.

669. **Silver Ore,** Justice Mine, Comstock Lode, Virginia, Nevada. George Schultz.

670. **Aragonite,** Suisun, Solano County, California. H. G. Hanks.

671. **Copper Ore,** Kentucky Mine, Calaveras County, California. S. Heydenfeldt, Jr.

672. **Copper Ore,** Malachite, Cuprite, Azurite, and Chrysocolla, Lost Mine, thirty miles west of the Colorado River, San Diego County, Cal. I. N. Thorne.

673. **Galena,** Santa Catalina Island, Coast of California. S. Heydenfeldt, Jr.

674. **Telluric Gold Ore,** Murchie Mine, five hundred-foot level, Nevada County, Cal. W. S. Schuyler, Superintendent.

675. **Gold Quartz,** Morning Star Mine, Siskiyou County, California. R. Doran.

676. **Silver Ore,** Cosala, Mexico. S. Heydenfeldt, Jr.

677. **Ore,** Boston Mine, Latrobe, El Dorado County, California. S. Heydenfeldt, Jr.

678. **Silver Ore,** Alice Mine, Little Cottonwood District, Utah. S. Heydenfeldt, Jr.

679. **Copper Ore,** Apache Chief Mine, Arizona. S. Heydenfeldt, Jr.

680. **Ore,** Apache Chief Mine, Arizona. S. Heydenfeldt, Jr.

681. **Copper Ore,** Smoke Creek, California. S. Heydenfeldt, Jr.

682. **Silver Ore,** Mina Prieta, Sonora, Mexico. S. Heydenfeldt, Jr.

683. **Silver Ore,** Emma May Mine, Little Cottonwood District, Utah. S. Heydenfeldt, Jr.

684. **Copper Ore,** Del Norte County, California. S. Heydenfeldt, Jr.

685. **Copper Ore,** Ione District, Amador County, California. S. Heydenfeldt, Jr.

686. **Chromic Iron,** Within six miles of San Francisco. Henry G. Hanks.

687. **Argentiferous Galena,** Searsville, Santa Clara County, California. S. Heydenfeldt, Jr.

688. **Micaceous Hematite,** Near Prescott, Arizona. William N. Kelly.

689. **Impure Magnetite,** Green Valley, El Dorado County, California. S. A. Coburn.

690. **Antimony Ore,** Hollister, San Benito County, California. Mr. Collins.

691. **Copper Ore,** Noble Mine, Amador County, California. S. Heydenfeldt, Jr.

692. **Copper Ore,** Ione Valley, Amador County, California. S. Heydenfeldt, Jr.

693. **Picrolite,** Amador County, Cal. S. Heydenfeldt, Jr.

694. **Silver Ore—Pyrargyrite,** Star Mine, Battle Mountain, Lander County, Nevada. L. Lanszweert.

695. **Copper Ore,** Ida Copper Mine, Lower California, Mexico. S. Heydenfeldt, Jr.

696. **Lead,** Miser's Dream Mine, White Pine, Nevada. S. Heydenfeldt, Jr.

697. **Chalcedony,** Josephine Mine, California. S. Heydenfeldt, Jr.

698. **Rock Specimen,** Colorado Canon. S. Heydenfeldt, Jr.

699. **Rock Specimen,** Las Cruzecitas, Sonora, Mexico. S. Heydenfeldt, Jr.

700. **Copper Ore,** Surprise Claim, Mount Diablo, Contra Costa County, California.

701. **Silver Ore with Gold, Copper, Iron, etc.,** Shasta Mine, Shasta County, California. L. Lanszweert.

702. **Antimony Ore,** Hollister, San Benito County, California. L. Lanszweert.

703. **Silver Ore, Antimony and Copper,** Shasta Mine, Shasta County, California. L. Lanszweert.

704. **Baculite,** Deadwood County, Dakota. Mrs. Funda.

705. **Graphite,** Ceylon. L. Lanszweert.

706. **Antimony,** Refined from ore from Winnemucca, Humboldt County, Nevada. L. Lanszweert.

707. **Antimony Ore—Stibnite,** Winnemucca, Humboldt County, Nevada. L. Lanszweert.

708. **Piece of Blossom Rock,** Bay of San Francisco. Charles Schneider.

709. **Gold Quartz,** Quartz Glen, six miles from Mokelumne Hill, Calaveras County, Cal. H. G. Hanks.

710. **Marble—Giallo Antico,** Tehachipa, Kern County, California. Musto Bros.

711. **Diatomaceous Earth—"Electro Silicon,"** Near Virginia City, Nevada. L. Lanszweert.

712. **Quartzite** (?), Surface No. 1 below Eureka, Eureka Mining District, Nevada. W. S. Keyes.

713. **Quartzite** (?), Surface No. 2 below Eureka, Eureka Mining District, Nevada. W. S. Keyes.

714. **Quartzite** (?), Surface No. 3 below Richmond, Eureka, Nevada. W. S. Keyes.

715. **Soft Quartzite** (?), No. 5 surface K. K. Mine, Eureka, Nevada. W. S. Keyes.

716. **Limestone,** Surface No. 6, Eureka Mine, Eureka, Nevada. W. S. Keyes.

717. **Limestone,** Surface No. 7, Eureka Mine, Nevada. W. S. Keyes.

718. **Limestone** (**dark**), Eureka Mine, Nevada. W. S. Keyes.

719. **Limestone,** Iron Stain No. 9, Eureka Mine, Nevada. W. S. Keyes.

720. **Quartzite** (?), No. 10, ninth level, Eureka Mine, Nevada. W. S. Keyes.

721. **Brecciated Limestone,** No. 13, first level, Eureka Mine, Nevada. W. S. Keyes.

722. **Stained Limestone,** No. 14, ninth level, Eureka Mine, Nevada. W. S. Keyes.

723. **Limestone,** Surface No. 18, Eureka Mine, Nevada. W. S. Keyes.

724. **Quartzite** (?), No. 19, fifth level, Eureka Mine, Nevada. W. S. Keyes.

725. **Hard Limestone,** No. 20, fifth level, Eureka Mine, Nevada. W. S. Keyes.

726. **Galena,** No. 34, fifth level, Eureka Mine, Nevada. W. S. Keyes.

727. **Blue Shale,** No. 36, tenth level, Eureka Mine, Nevada. W. S. Keyes.

728. **Light Colored Clay Shale** (?), Sixth level, Richmond Mine, Eureka, Nevada.. W. S. Keyes.

729. **Blue Shale** (?), No. 19, sixth level, Richmond Mine, Eureka, Nevada. W. S. Keyes.

730. **Silver Ore,** Dump, K. K. Mine, Eureka, Nevada. W. S. Keyes.

731. **Calcareous Shale** (?) No. 40, Richmond Mine, Eureka, Nevada. W. S. Keyes.

732. **Calcareous Shale** (?), No. 41, Richmond Mine, Eureka, Nevada. W. S. Keyes.

733. **Stratified Limestone,** No. 42, Richmond Mine, Eureka, Nevada. W. S. Keyes.

734. **Light Colored Shale** (?), No. 45, ninth level, Eureka Mine, Nevada. W. S. Keyes.

735. **Quartzite** (?), No. 46, fifth level, Eureka Mine, Nevada. W. S. Keyes.

736. **Silver Lead Ore,** No. 47, Eureka Mine, Nevada. W. S. Keyes.

737. **Broken Limestone,** No. 49, Eureka Mine, Nevada. W. S. Keyes.

738. **Blue Clay,** No. 51, ninth level, Eureka Mine, Nevada. W. S. Keyes.

739. **Mimetite and Arseniate of Iron,** No. 33, Eureka Mine, Nevada. W. S. Keyes.

740. **Blue Shale** (?), Eighth level, Richmond Mine, Eureka, Nevada. W. S. Keyes.

741. **Stratified Limestone,** No. 53, Eighth level, Richmond Mine, Eureka, Nevada. W. S. Keyes.

742. **Low Grade Ore,** No. 56, Eureka Mine, Nevada. W. S. Keyes.

743. **Stratified Limestone,** Outside vein, No. 63, Jackson Mine, Eureka, Nevada. W. S. Keyes.

744. **Silver Lead,** No. 64, K. K. Mine, Eureka, Nevada. W. S. Keyes.

745. **Quartz Ore,** K. K. Mine, Eureka, Nevada. W. S. Keyes.

746. **Wulfenite,** Eureka Mine, Nevada. W. S. Keyes.

747. **Wulfenite,** No. 66, K. K. Mine, Eureka, Nevada. W. S. Keyes.

748. **Quartzite** (?), No. 67, sixth level K. K. Mine, Eureka, Nevada. W. S. Keyes.

749. **Hard Limestone,** No. 75, second level Eureka Mine, Nevada. W. S. Keyes.

750. **Silver Lead Ore and Wulfenite,** Jackson Mine, Eureka, Nevada. W. S. Keyes.

751. **Iron and Manganese,** K. K. Mine, foot wall, fifth level, Eureka, Nevada. W. S. Keyes.

752. **Silver Lead Ore,** Eureka Mine, Nevada. W. S. Keyes.

753. **Shale** (?), Eureka Mine, Nevada. W. S. Keyes.

754. **Molybdate of Lead** (?) **and Galena,** Eureka Mine, Nevada. W. S. Keyes.

755. **Silver Ore,** Jackson Mine, Eureka, Nevada. W. S. Keyes.

756. **Quartzite** (?) Foot wall, showing Manganese, Phœnix Mine, Eureka, Nevada. W. S. Keyes.

757. **Silver Lead Ore,** K. K. Mine, Eureka, Nevada. W. S. Keyes.

758. **Clay Shale** (?), K. K. Mine, Eureka, Nevada. W. S. Keyes.

759. **Limestone,** Surface, Eureka Mine, Nevada. W. S. Keyes.

760. **Clay Shale** (?), Jackson Mine, Eureka, Nevada. W. S. Keyes.

761. **Iron Ore,** No. 26, fifth level Eureka Mine, Nevada. W. S. Keyes.

762. ——— ———, Jackson Mine, Eureka, Nevada. W. S. Keyes.

763. **Shattered Limestone,** No. 48, seventh level Richmond Mine, Nevada. W. S. Keyes.

764. **Decomposed Limestone,** second level K. K. Mine, Nevada. W. S. Keyes.

765. **Sandy Limestone,** Hanging wall No. 17, ninth level Eureka Mine, Nevada. W. S. Keyes.

766. **Low Grade Ore,** No. 79, second level K. K. Mine, Nevada. W. S. Keyes.

767. **Shattered Limestone,** No. 76, second level K. K. Mine, Nevada. W. S. Keyes.

768. **Ore,** Jackson Mine, Nevada. W. S. Keyes.

769. **Blue Clay,** Contact No. 32, sixth level Eureka Mine, Nevada. W. S. Keyes.

770. **Stained Limestone,** Eureka Mine, Nevada. W. S. Keyes.

771. **Black Carbonate Ore,** No. 31, fifth level Eureka Mine, Nevada. W. S. Keyes.

772. **Kaolin,** (Like quartzite) foot wall No. 23, Eureka Mine, Nevada. W. S. Keyes.

773. **Low Grade Ore,** No. 80, second level K. K. Mine, Nevada. W. S. Keyes.

774. **Quartzite** (?), Decomposed, No. 22, fifth level Eureka Mine, Nevada. W. S. Keyes.

775. **Mimetite and Galena,** No. 28, fifth level Eureka Mine, Nevada. W. S. Keyes.

776. **Quartzite** (?), Surface, No. 4, K. K. Mine, Nevada. W. S. Keyes.

777. **Mimetite and Arseniate of Iron,** Eureka Mine, Nevada. W. S. Keyes.

778. **Black Carbonate of Lead,** Eureka Mine, Nevada. W. S. Keyes.

779. **Low Grade Ore,** No. 25, fifth level Eureka Mine, Nevada. W. S. Keyes.

780. **Stained Limestone,** No. 77, second level K. K. Mine, Nevada. W. S. Keyes.

781. **Sandy Limestone,** No. 12, sixth level Eureka Mine, Nevada. W. S. Keyes.

782. **Low Grade Ore,** Eureka Mine, Nevada. W. S. Keyes.

783. **Ore,** Eureka Mine, Nevada. W. S. Keyes.

784. **Breccia,** No. 74, Phœnix Mine, Eureka, Nevada. W. S. Keyes.

785. **Galena, Iron,** No. 27, fifth level Eureka Mine, Nevada. W. S. Keyes.

786. **Black Carbonate Ore,** No. 30, Eureka Mine, Nevada. W. S. Keyes.

787. **Stained Limestone,** No. 21, fifth level Eureka Mine, Nevada. W. S. Keyes.

788. **Stained Limestone,** No. 15, ninth level Eureka Mine, Nevada. W. S. Keyes.

789. **Sandy Limestone,** No. 11, fifth level Eureka Mine, Nevada. W. S. Keyes.

790. **Quartzite** (?), Foot wall showing striæ, Jackson Mine, Nevada. W. S. Keyes.

791. **Diatomaceous Earth, with Fossils,** Santa Barbara, California. W. W. Finch.

792. **Ammonite,** Cottonwood, Shasta County, California. L. Wellendorff.

793. **Diatomaceous Earth, with Fossils,** Santa Barbara, California. W. W. Finch.

794. **Diatomaceous Earth, with Fossils,** Santa Barbara, California. W. W. Finch.

795. **Diatomaceous Earth, with Fossils,** Santa Barbara, California. W. W. Finch.

796. **Diatomaceous Earth, with Fossils,** Santa Barbara, California. W. W. Finch.

797. **Chromic Iron,** Near St. Helena, California. Wm. H. Grattan.

798. **Mica Schist,** Gold Lake, Plumas County, California. L. V. B. Howell.

799. **Selenite,** Santa Barbara, California. H. G. Hanks.

800. **Azurite,** Peck Mine, Copper Hill, Shasta County, California. L. Wellendorff.

801. **Copper Ore,** Copper Hill, Shasta County, California. L. Wellendorff.

802. **Copper Ore,** Kellenger Mine, Copper Hill, Shasta County, California. L. Wellendorff.

803. **Copper Ore,** Peck Mine, Copper Hill, Shasta County, California. L. Wellendorff.

804. **Erubescite, Chalcopyrite, and Pyrites,** Copper City, Shasta County, California. L. Wellendorff.

805. **Silver Ore,** Chance Mine, Shasta County, California. L. Wellendorff.

806. **Cuprite (?),** Microscopic Crystals, Peck Mine, Copper Hill, Shasta County, California. L. Wellendorff.

807. **Chalcanthite,** Copper City, Shasta County, California. L. Wellendorff.

808. **Chalcanthite,** Peck Mine, Copper City, Shasta County, California. L. Wellendorff.

809. **Copper Ore,** Peck Mine, Copper City, Shasta County, California. L. Wellendorff.

810. **Fossiliferous Sandstone,** Near Shasta, California. L. Wellendorff.

811. **Silver Ore,** Kellenger and Lucy Mine, Copper City, Shasta County, California. L. Wellendorff.

812. **Melaconite,** Afterthought Mine, Shasta County, California. L. Wellendorff.

813. **Lenzinite (?),** Chance Mine, Copper Hill, Shasta County, California. L. Wellendorff.

814. **Tufa (Ferruginous),** Peck Mine, Shasta County, California. L. Wellendorff.

815. **Ionite,** Amador County, California. L. Wellendorff.

816. **Carbonate of Copper,** Peck Mine, Copper Hill, Shasta County, California. L. Wellendorff.

817. **Chalcopyrite,** Island near Sitka, Alaska. Captain J. W. Wight.

818. **Pyrites,** Island near Sitka, Alaska. Captain J. W. Wight.

819. **Magnetite,** Tres Pinos, San Benito County, California. Thomas Wallace.

820. **Calcite,** Sixty miles from Sitka, Alaska. Captain J. W. Wight.

821. **Iron Ore** [magnetic (?)], Island of Texada, Straits of Georgia, British Columbia. Thomas Wallace.

822. **Silver Ore** (croppings), East Alta, Silver City, Nevada. Wm. H. Watson.

823. **Group of Quartz Crystals,** Mariposa Mine, Mariposa County, California. J. W. Brumagim.

824. **Cuprite,** Island of Texada, Straits of Georgia, British Columbia. Thomas Wallace.

825. **Silver Ore,** Succor Mine, Comstock, Nevada. Wm. H. Watson.

826. **Silver Ore,** Pontiac Mine, Silver City, Nevada. Wm. H. Watson.

827. **Cuprite and Chamasite** (?), Ajo Copper Mine, Maricopa County, Arizona. Thomas Wallace.

828. **Quartz Crystals,** Mariposa Mine, California. J. W. Brumagim.

829. **Quartz Crystals,** Mariposa Mine, California. J. W. Brumagim.

830. **Diatomaceous Earth,** Monterey, California. A. Gonzales.

831. ——— ———, Gold Mountain Mine, San Bernardino County, California. Wm. H. Watson.

832. **Gold Quartz,** Mariposa County, California. Wm. H. Watson.

833. **Saponite,** Rock Soap, Ventura County, California.

834. **Trophon gracile,** Red Crag, near Oxford Castle, England. Thomas Floyd.

835. **Fascicularia aurantium,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

836. **Nassa reticosa,** Red Crag, near Oxford Castle, England. Thomas Floyd.

837. **Pectunculus glycimeris,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

838. **Venus casina,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

839. **Aporrhais pespelicani,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

840. **Trophon scalariforme,** Red Crag, near Oxford Castle, England. Thomas Floyd.

841. **Buccinum dalei,** Red Crag, near Oxford Castle, England. Thomas Floyd.

842. **Nassa costata,** Variety of N. Reticosa, Red Crag, near Oxford Castle, England. Thomas Floyd.

843. **Cardita senilis,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

844. **Voluta lamberti,** Red Crag, near Oxford Castle, England. Thomas Floyd.

845. **Natica varians,** Red Crag, near Oxford Castle, England. Thomas Floyd.

846. **Purpura lapillus,** Red Crag, near Oxford Castle, England. Thomas Floyd.

847. **Clavatula concinnata,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

848. **Aleyonidium circumvestiens** (on a Trophon) Coralline Crag, near Oxford Castle, England. Thos. Floyd.

849. **Natica multipunctata,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

850. **Trophon costiferum,** Red Crag, near Oxford Castle, England. Thomas Floyd.

851. **Alveolaria semiovata,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

852. **Gastrana laminosa,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

853. **Calyptraea sinensis,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

854. **Astarte digitaria** (Woodia digitaria), Coralline Crag, near Oxford Castle, England. Thomas Floyd.

855. **Corbula striata,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

856. **Trophon muricatum,** Red Crag, near Oxford Castle, England. Thomas Floyd.

857. **Cypraea avellana,** Red Crag, near Oxford Castle, England. Thomas Floyd.

858. **Lucina borealis,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

859. **Clavatula laevigata,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

860. **Cellepora edax,** on a Nassa, Coralline Crag, near Oxford Castle, England. Thomas Floyd.

861. **Terebratula grandis,** Red Crag, near Oxford Castle, England. Thomas Floyd.

862. **Cypræa retusa,** Red Crag, near Oxford Castle, England. Thomas Floyd.

863. **Nassa granifera,** Red Crag, near Oxford Castle, England. Thomas Floyd.

864. **Anomia striata,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

865. **Cypræa europaea,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

866. **Columbella minor,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

867. **Astarte omallii,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

868. **Fascicularia tubipora,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

869. **Tectura virginea,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

870. **Buccinum undatum,** Red Crag, near Oxford Castle, England. Thomas Floyd.

871. **Clavatula turricula,** Red Crag, near Oxford Castle, England. Thomas Floyd.

872. **Astarte obliquata,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

873. **Nassa labiosa,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

874. **Trophon alveolatum,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

875. **Trophon consociale,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

876. **Murex tortuosus,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

877. **Emarginula crassa,** Red Crag, near Oxford Castle, England. Thomas Floyd.

878. **Pecten opercularis,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

879. **Trochus subexcavatus,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

880. **Trochus montacuti,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

881. **Bulla cylindracea,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

882. **Nassa prismatica,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

883. **Conovulus pyramidalis,** Red Crag, near Oxford Castle, England. Thomas Floyd.

884. **Columbella sulcata,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

885. **Pecten tigrinus,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

886. **Pleurotoma porrecta,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

887. **Chemnitzia internodula,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

888. **Clavatula costata,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

889. **Emarginula fissura,** Red Crag, near Oxford Castle, England. Thomas Floyd.

890. **Trophon contrarium,** (Young of) Red Crag, near Oxford Castle, England. Thomas Floyd.

891. **Terebra inversa,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

892. **Columbella sulcata,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

893. **Nassa granulata,** Red Crag, near Oxford Castle, England. Thomas Floyd.

894. **Cardita scalaris,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

895. **Pyramidella laeviuscula,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

896. **Venus ovata,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

897. **Gold Quartz in slate,** Sixty feet deep, two feet wide, Chapparal Mine, Tuolumne County, California. J. H. Redmond.

898. **Gold Quartz in slate,** One hundred feet deep, Golden Gate Mine, Tuolumne County, California. J. H. Redmond.

899. **Gold Quartz in slate,** One hundred feet deep, Sweeny Mine, Tuolumne County, California. J. H. Redmond.

900. **Gold-bearing rock,** Heslep Mine, Tuolumne County, California. J. H. Redmond.

901. **Gold Quartz,** Tuolumne County, California. J. H. Redmond.

902. **Jasper,** Tuolumne County, California. J. H. Redmond.

903. **Gold Quartz,** One hundred and fifty feet deep, Grizzly Mine, Tuolumne County, California. J. H. Redmond.

904. **Marble** (white), Tuolumne County, California. J. H. Redmond.

905. **Gold Quartz in slate,** One hundred feet deep, Patterson Mine, Tuolumne County, California. J. H. Redmond.

906. **Gold Quartz,** Shaw Mine, Tuolumne County, California. J. H. Redmond.

907. **Gold Quartz,** Tuolumne County, California. J. H. Redmond.

908. **Steatite,** Eight feet thick, Tuolumne County, California. J. H. Redmond.

909. **Gold Quartz,** Black Mine, Tuolumne County, California. J. H. Redmond.

910. **Copper Ore,** Sixty feet deep, Copper Mine, Tuolumne County, California. J. H. Redmond.

911. **Slate and Granite,** Bodie District, Mono County, California. J. H. Redmond.

912. **Gold-bearing Sulphurets,** Soulsby Mine, Tuolumne County, California. J. H. Redmond.

913. **Gold Quartz,** in granite, five hundred and fifty feet deep, one foot thick, Soulsby Mine, Tuolumne County, California. J. H. Redmond.

914. **Sandstone,** Eighteen feet thick, Tuolumne County, California. J. H. Redmond.

915. **Lead Ore** (?), New Coso Mine, Inyo County, California. Wm. H. V. Cronise.

916. **Gold Quartz,** Louisiana Mine, Tuolumne County, California. J. H. Redmond.

917. **Gold Quartz,** in granite, Jackson Tunnel, Mariposa County, California. J. H. Redmond.

918. **Manganese Ore,** Tuolumne County, California. J. H. Redmond.

919. **Gold Quartz,** One hundred and fifty feet deep, Heslep Mine, Tuolumne County, California. J. H. Redmond.

920. **Talcose Slate,** Tuolumne County, California. J. H. Redmond.

921. **Wall Rock,** Shaft No. 4, Servia and Slavonia Mine, Elko County, Nevada. L. V. B. Howell.

922. **Concentrated Tailings,** Soulsby Mine, Tuolumne County, California. J. H. Redmond.

923. **Chromic Iron,** Tuolumne County, California. J. H. Redmond.

924. **Cinnabar in Serpentine,** Tuolumne County, California. J. H. Redmond.

925. **Gold Quartz,** Seven feet thick, Mammoth Mine, Tuolumne County, California. J. H. Redmond.

926. **Gold Quartz,** Lookout Mine, Tuolumne County, California. J. H. Redmond.

927. **Gold Quartz,** Williams' Mine, Tuolumne County, California. J. H. Redmond.

928. **Concentrated Sulphurets,** from talcose slate, near Sonora, Tuolumne County, Cal. J. H. Redmond.

929. **Graphite,** Tuolumne County, Cal. J. H. Redmond.

930. **Gold Quartz,** Talisman Mine, Amador County, California. L. Leavitt.

931. **Rock Soap,** Ventura County, California. Ventura Rock Soap Company.

932. **Rock Soap** (Marine), Ventura County, California. Ventura Rock Soap Company.

933. **Rock Soap** (toilet), Ventura County, California. Ventura Rock Soap Company.

934. **Rock Soap** (laundry), Ventura County, California. Ventura Rock Soap Company.

935. **Rock Soap** (tooth powder), Ventura County, California. Ventura Rock Soap Company.

936. **Ulexite**, near Columbus, Esmeralda County, Nevada. J. Mosheimer.

937. **Sulphide of Antimony**, Kern County, California. Charles E. Sherman.

938. **Fossil Shells**, Rock Creek, near Dalles, Oregon. S. D. Brastow.

939. **Fossil Shells**, Rock Creek, near Dalles, Oregon. S. D. Brastow.

940. **Fossil Shells**, Rock Creek, near Dalles, Oregon. S. D. Brastow.

941. **Mammalian Fossils**, Cave, near John Day River, Oregon. S. D. Brastow.

942. **Mammalian Fossils**, Cave, near John Day River, Oregon. S. D. Brastow.

943. **Mammalian Fossils**, Cave, near John Day River, Oregon. S. D. Brastow.

944. **Mammalian Fossils**, Cave, near John Day River, Oregon. S. D. Brastow.

945. **Mammalian Fossils**, Cave, near John Day River, Oregon. S. D. Brastow.

946. **Mammalian Fossils**, Cave, near John Day River, Oregon. S. D. Brastow.

947. **Mammalian Fossils**, Cave, near John Day River, Oregon. S. D. Brastow.

948. **Mammalian Fossils,** Cave, near John Day River, Oregon. S. D. Brastow.

949. **Mammalian Fossils,** Horse Beds, near John Day River, Oregon. S. D. Brastow.

950. **Mammalian Fossils,** Cave, near John Day River, Oregon. S. D. Brastow.

951. **Mammalian Fossils,** Cave, near John Day River, Oregon. S. D. Brastow.

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955. **Quartz Pebbles,** Near Big Tank, Colorado Desert, San Diego County, California. Albert T. Lee.

956. **Silver Ore,** San Francisco Mine, Ivawatt District, San Bernardino County, California. Mr. Strong.

957. **Selenite,** Near Dos Palmos Station, S. P. R. R., San Diego County, California. Albert T. Lee.

958. **Silver Ore,** Silver Brick Claim, near Dos Palmos, San Diego County, California. Albert T. Lee.

959. **Pumice Stone,** Near Dos Palmos, San Diego County, California. Albert T. Lee.

960. **Chromic Iron,** Two miles northwest Shingle Springs, El Dorado County, California. W. Bryant.

961. **Silver, Lead, and Gold Ore,** Lone Star Claim, S. P. R. R. District, San Diego County, California. Albert T. Lee.

962. **Chalcedony,** Big Tank, Colorado Desert, San Diego County, California. Albert T. Lee.

963. **Rock Specimen,** Big Tank, Colorado Desert, San Diego County, California. Albert T. Lee.

964. **Shells,** Colorado Desert, San Diego County, California. Albert T. Lee.

965. **Magnetite,** El Dorado County, California, two miles northwest Shingle Springs. W. Bryant.

966. **Tschermigite,** (Ammonium alum), Utah County, Utah. B. F. Howland.

967. **Copper Ore,** Lodi Mine, Battle Mountain, Nevada. F. H. Alexander.

968. **Cuprite,** Roanoke Mine, Battle Mountain, Nevada. F. H. Alexander.

969. **Pyrargyrite,** Lewis District, Nev. F. H. Alexander.

970. **Silver Ore,** (Croppings), St. Xavier Mine, eighteen miles from Tucson, Arizona. F. H. Alexander.

971. **Copper Ore,** Battle Mountain, Nevada. F. H. Alexander.

972. **Copper Ore,** Tuscarora Mine, Battle Mountain, Nevada. F. H. Alexander.

973. **Copper Ore,** Mound Mine, Battle Mountain, Nevada. F. H. Alexander.

974. **Gold Quartz,** With free gold, Fall Creek Mine, near Emigrant Gap, Nevada County, California. C. P. Robinson.

975. **Galena,** Colorado. C. P. Robinson.

976. **Diatomaceous Earth with Fossils,** Santa Barbara County, California. W. W. Finch.

977. **Diatomaceous Earth with Fossils,** Santa Barbara County, California. W. W. Finch.

978. **Diatomaceous Earth with Fossils,** Santa Barbara County, California. W. W. Finch.

979. **White Sand,** Spinks Coal Mine, Lincoln, Placer County, California. Cook & Spinks. [Description of Nos. 979 to 987 inclusive. The formation is nearly as follows: Four feet soil, sixteen feet clay, one foot sand, five feet clay, four feet sand, twenty feet clay; twelve feet alternate layers of coal and clay, varying in thickness from one inch to two feet, eight feet coal—in all, seventy feet.]

980. **Surface Clay,** Spinks Coal Mine, Lincoln, Placer County, California. Cook & Spinks.

981. **Pyrites with Coal,** Spinks Coal Mine, Lincoln, Placer County, California. Cook & Spinks.

982. **Ionite,** Found in spots and streaks through the coal, Spinks Coal Mine, Lincoln, Placer County, California. Cook & Spinks.

983. **Ionite,** Found in spots and streaks through the coal, Spinks Coal Mine, Lincoln, Placer County, California. Cook & Spinks.

984. **Clay,** Underlying coal, Spinks Coal Mine, Lincoln, Placer County, California. Cook & Spinks.

985. **Clay,** Lying between two sand streaks, Spinks Coal Mine, Lincoln, Placer County, California. Cook & Spinks.

986. **Clay,** Lying between the coal streaks above the main ledge, Spinks Coal Mine, Lincoln, Placer County, California. Cook & Spinks.

987. **Coal,** Spinks Coal Mine, Lincoln, Placer County, California. Cook & Spinks.

988. **Obsidian,** Rosebaugh Ranch, near Sulphur Bank, Lake County, California. H. B. Calahan.

989. **Nassa elegans,** Red Crag, near Oxford Castle, England. Thomas Floyd.

990. **Sphenotrochus intermedius,** Coralline Crag, near Oxford Castle, England. Thomas Floyd.

991. **Lava,** El Dorado Canyon, Lincoln County, Nevada. A. J. Bowie, Jr.

992. **Obsidian,** Rosebaugh Ranch, Sulphur Bank, Lake County, California. H. B. Calahan.

993. **Obsidian and Cinnabar,** Rosebaugh Ranch, Sulphur Bank, Lake County, California. H. B. Calahan.

994. **Rock Specimens,** El Dorado Canyon, Lincoln County, Nevada. A. J. Bowie, Jr.

995. **Rock Specimens,** El Dorado Canyon, Lincoln County, Nevada. Aug. J. Bowie, Jr.

996. **Rock Specimens,** El Dorado Canyon, Lincoln County, Nevada. Aug. J. Bowie, Jr.

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1070. **Rock Specimens,** El Dorado Canyon, Lincoln County, Nevada. Aug. J. Bowie, Jr.

1071. **Nickel (?) Cobalt and Copper Ore,** Alkaline Mining Company, Esmeralda County, Nevada. Aug. J. Bowie, Jr.

1072. **Chrysotile,** locality unknown. Aug. J. Bowie, Jr.

1073. **Nickel (?) Cobalt and Copper Ore,** Alkaline Mining Company, Esmeralda County, Nevada. Aug. J. Bowie, Jr.

1074. **Nickel (?) Cobalt and Copper Ore,** Alkaline Mining Company, Esmeralda County, Nevada. Aug. J. Bowie, Jr.

1075. **Nickel (?) Cobalt and Copper Ore,** Alkaline Mining Company, Esmeralda County, Nevada. Aug. J. Bowie, Jr.

1076. **Native Sulphur,** Steamboat Springs, Washoe County, Nevada. Aug. J. Bowie, Jr.

1077. **Cobalt and Copper Ore,** Alkaline Mining Company, Esmeralda County, Nev. Aug. J. Bowie, Jr.

1078. **Chrysocolla,** Alkaline Mining Company, Esmeralda County, Nevada. Aug. J. Bowie, Jr.

1079. **Cinnabar,** Steamboat Springs, Washoe County, Nevada. Aug. J. Bowie, Jr.

1080. **Chrysocolla,** Alkaline Mining Company, Esmeralda County, Nevada. Aug. J. Bowie, Jr.

1081. **Copper Ore,** Alkaline Mining Company, Esmeralda County, Nevada. Aug. J. Bowie, Jr.

1082. **Copper and Cobalt Ore,** Alkaline Mining Company, Esmeralda County, Nev. Aug. J. Bowie, Jr.

1083. **Diorite Mounted** (country rock), near old Virginia claim, Comstock. M. Attwood.

1084. **Diorite Mounted,** Eighteen hundred-foot level, Ophir Mine. M. Attwood.

1085. **Diorite Mounted,** Nineteen hundred-foot level, north end drift, Ophir Mine. M. Attwood.

1086. **Diorite Mounted,** Nineteen hundred-foot level, south end drift, Ophir Mine. M. Attwood.

1087. **Diorite Mounted,** Nineteen hundred-foot level, east end, cross-cut, Ophir Mine. M. Attwood.

1088. **Altered Quartzose, Trachyte, Diorite mounted,** Probably from near some large ore body. M. Attwood.

1088 Second. **Altered Quartzose, Trachyte, Diorite,** the feldspar mostly Sanidin. Hanging wall Standard Mine, Bodie District, Mono County, California. John F. Boyd.

1089. **Gold Quartz,** Standard Mine, Bodie District, Mono County, California. John F. Boyd.

1090. **Gold Quartz,** Standard Mine, Bodie District, Mono County, California. John F. Boyd.

1091. **Porphyry,** Foot wall Standard Mine, Bodie District, Mono County, California. John F. Boyd.

1092. **Mica Schist,** Ivawatt District, San Bernardino County, California. W. S. Keyes.

1093. **Gold Quartz,** German Mine, near Placerville, El Dorado County, California. C. Beard.

1094. **Gold Quartz,** Gwinn Mine, Calaveras County, California. John P. Bacon.

1095. **Kaolin,** Tuolumne County, Cal. J. P. Redmond.

1096. **Silver Ore,** San Francisco Mine, Ivawatt District, San Bernardino County, California. W. S. Keyes.

1097. ——— ———, Ivawatt District, San Bernardino County, California. W. S. Keyes.

1098. **Silver Ore,** Great Eastern Mine, San Bernardino County, California. W. S. Keyes.

1099. **Fossil Ivory,** Alaska. Aug. J. Bowie, Jr.

1100. **Gold in Talcose Slate,** Black Hills, Dakota Territory. J. W. Gashwiler.

1101. **Gold Quartz,** Homestake Mine, Black Hills, Dakota Territory. J. W. Gashwiler.

1102. **Vein Matter,** Homestake Mine, Black Hills, Dakota Territory. J. W. Gashwiler.

1103. **Vein Matter,** Homestake Mine, Black Hills, Dakota Territory. J. W. Gashwiler.

1104. **Silver Lead Ore,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1105. **Galena,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1106. **Silver Ore,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1107. **Silver Lead Ore,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1108. **Tschermigite,** Sulphur Bank Mine, Lake County, California. H. B. Calahan.

1109. **Cinnabar and Obsidian,** Sulphur Bank Mine, No. 2, Lake County, California. H. B. Calahan.

1110. **Silver Lead Ore,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1111. **Silver Ore,** South Barcelona Mine, Nye County, Nevada. D. F. Verdenal.

1112. **Silver Ore (sandstone),** Leeds Mining District, Washington County, Utah. D. F. Verdenal.

1113. **Silver Ore,** Resting Springs Mine, San Bernardino County, California. Wm. Masker.

1114. **Silver Ore,** Resting Springs Mine, San Bernardino County, California. Wm. Masker.

1115. ——— ———, Paso Robles, San Luis Obispo County, California. D. Blackburn.

1116. **Pitch Stone,** Paso Robles, San Luis Obispo County, California. D. Blackburn.

1117. **Quartz Breccia,** Paso Robles, San Luis Obispo County, California. D. Blackburn.

1118. **Silver Ore,** Grand Mine, Inyo County, California. W. D. Brown.

1088. **Altered Quartzose, Trachyte, Diorite mounted,** Probably from near some large ore body. M. Attwood.

1088 Second. **Altered Quartzose, Trachyte, Diorite,** the feldspar mostly Sanidin. Hanging wall Standard Mine, Bodie District, Mono County, California. John F. Boyd.

1089. **Gold Quartz,** Standard Mine, Bodie District, Mono County, California. John F. Boyd.

1090. **Gold Quartz,** Standard Mine, Bodie District, Mono County, California. John F. Boyd.

1091. **Porphyry,** Foot wall Standard Mine, Bodie District, Mono County, California. John F. Boyd.

1092. **Mica Schist,** Ivawatt District, San Bernardino County, California. W. S. Keyes.

1093. **Gold Quartz,** German Mine, near Placerville, El Dorado County, California. C. Beard.

1094. **Gold Quartz,** Gwinn Mine, Calaveras County, California. John P. Bacon.

1095. **Kaolin,** Tuolumne County, Cal. J. P. Redmond.

1096. **Silver Ore,** San Francisco Mine, Ivawatt District, San Bernardino County, California. W. S. Keyes.

1097. ——— ———, Ivawatt District, San Bernardino County, California. W. S. Keyes.

1098. **Silver Ore,** Great Eastern Mine, San Bernardino County, California. W. S. Keyes.

1099. **Fossil Ivory,** Alaska. Aug. J. Bowie, Jr.

1100. **Gold in Talcose Slate,** Black Hills, Dakota Territory. J. W. Gashwiler.

1101. **Gold Quartz,** Homestake Mine, Black Hills, Dakota Territory. J. W. Gashwiler.

1102. **Vein Matter,** Homestake Mine, Black Hills, Dakota Territory. J. W. Gashwiler.

1103. **Vein Matter,** Homestake Mine, Black Hills, Dakota Territory. J. W. Gashwiler.

1104. **Silver Lead Ore,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1105. **Galena,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1106. **Silver Ore,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1107. **Silver Lead Ore,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1108. **Tschermigite,** Sulphur Bank Mine, Lake County, California. H. B. Calahan.

1109. **Cinnabar and Obsidian,** Sulphur Bank Mine, No. 2, Lake County, California. H. B. Calahan.

1110. **Silver Lead Ore,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1111. **Silver Ore,** South Barcelona Mine, Nye County, Nevada. D. F. Verdenal.

1112. **Silver Ore (sandstone),** Leeds Mining District, Washington County, Utah. D. F. Verdenal.

1113. **Silver Ore,** Resting Springs Mine, San Bernardino County, California. Wm. Masker.

1114. **Silver Ore,** Resting Springs Mine, San Bernardino County, California. Wm. Masker.

1115. ——— ———, Paso Robles, San Luis Obispo County, California. D. Blackburn.

1116. **Pitch Stone,** Paso Robles, San Luis Obispo County, California. D. Blackburn.

1117. **Quartz Breccia,** Paso Robles, San Luis Obispo County, California. D. Blackburn.

1118. **Silver Ore,** Grand Mine, Inyo County, California. W. D. Brown.

1119. **Silver Ore,** New York Mine, Inyo County, California. W. D. Brown.

1120. **Argentiferous Galena,** Grand Mine, Inyo County, California. W. D. Brown.

1121. **Silver Ore,** Grand Mine, Inyo County, California. W. D. Brown.

1122. **Graphite,** Port Clarence, Grantby Harbor, Behring Straits. F. M. Smith, Jr.

1123. **Glacial Polish (limestone),** Webfoot Mine, R. R. District, Elko County, Nevada. D. A. Jennings.

1124. **Silicified Wood,** Unga Island, coast of Alaska. Henry C. Hyde.

1125. **Fossil Ferns,** Unger Island, coast of Alaska. Henry C. Hyde.

1126. **Granite,** Mariposa Mine, Mariposa County, California. F. Schlageter.

1127. **Silver Ore,** Moscow Mine, Goose Creek District, Elko County, Nevada. Friend & Johnson.

1128. ——— ———, Montello Range, Elko County, Nevada. Friend & Johnson.

1129. **Stalagmite,** Bass' Cave, Shasta County, California. D. Wellendorff.

1130. **Stalactite,** Bass' Cave, Shasta County, California. L. Wellendorff.

1131. **Productus,** Montello Range, Elko County, Nevada. Friend & Johnson.

1132. **Silver Lead Ore,** Saturn Mine, Delano District, Elko County, Nevada. Friend & Johnson.

1133. **Silver Ore,** Moscow Mine, Tuscarora District, Elko County, Nevada. Friend & Johnson.

1134. **Stems of Encrirites,** Caledonia Ground, Elko County, Nevada. Friend & Johnson.

1135. **Paleozoic Fossils,** Montello Range, Elko County, Nevada. Friend & Johnson.

1136. **Silver Ore,** Clipper Mine, Goose Creek District, Elko County, Nevada. Friend & Johnson.

1137. **Talc,** Delano District, Elko County, Nevada. Friend & Johnson.

1138. **Silver Ore,** Goose Creek District, Elko County, Nevada. Friend & Johnson.

1139. **Silver Ore,** Eliza Mine, Delano District, Elko County, Nevada. Friend & Johnson.

1140. **Silver Ore,** Genesee Mine, Buel, Nevada. Friend & Johnson.

1141. **Silver Lead Ore,** Oswego Mine, Buel, Nevada. Friend & Johnson.

1142. **Silver Ore,** Mantic Mine, Buel, Nevada. Friend & Johnson.

1143. **Wulfenite,** Tecoma Mine, Elko County, Nevada. Friend & Johnson.

1144. ——— ———, Port Harford, San Luis Obispo County, California. John Harford.

1145. **Beach Sand,** Port Harford, San Luis Obispo County, California. John Harford.

1146. ——— ———, Port Harford, San Luis Obispo County, California. John Harford.

1147. ——— ———, Port Harford, San Luis Obispo County, California. John Harford.

1148. **Rock bored by Pholas,** Port Harford, San Luis Obispo County, California. John Harford.

1149. **Ammonite,** North Fork of Cottonwood, Shasta County, California. L. Wellendorf.

1150. **Silicified Wood,** Aug. J. Bowie, Jr.

1151. **Silver and Copper Ore,** Robertson District. Ella Robertson.

1152. **Rock Salt,** Silver Peak, Esmeralda County, Nevada. A. Barstow.

1153. **Lava,** Silver Peak, Esmeralda County, Nevada. A. Barstow.

1154. **Chromic Iron,** Los Gatos, Santa Clara County, California. A. Barstow.

1155. **Sulphur,** Smoky Valley, Nevada. A. Barstow.

1156. **Silver Ore** (four specimens), Mountain City Mine, Cope District, Elko County, Nevada. F. M. Roby.

1157. **Silver Ore** (chloride), Swelling's Mine, Tip Top District, Yavapai County, Arizona. Mrs. Ben. Morgan.

1158. **Antimonial Copper and Silver Ore,** Ontario Mine, between third and fourth levels east, Uinta District, Utah. J. B. Haggin.

1159. **Silver Ore,** Peck Mine, Bradshaw District, Yavapai County, Arizona. Mrs. Ben. Morgan.

1160. **Silver Ore,** Pacific Mine, Bradshaw District, Yavapai County, Arizona. Mrs. Ben. Morgan.

1161. **Silver Ore,** Grizzly Mine, Bradshaw District, Yavapai County, Arizona. Mrs. Ben. Morgan.

1162. **Silver Ore,** Peck Mine, Bradshaw District, Yavapai County, Arizona. Mrs. Ben. Morgan.

1163. **Silver Ore,** Silver Glance Mine, Bradshaw District, Yavapai County, Arizona. Mrs. Ben. Morgan.

1164. **Silver Ore,** Peck Mine, Bradshaw District, Yavapai County, Arizona. Mrs. Ben. Morgan.

1165. **Silver Ore,** Goodman Mine, Bradshaw District, Yavapai County, Arizona. Mrs. Ben. Morgan.

1166. **Silver Ore,** Whitman Mine, Bradshaw District, Yavapai County, Arizona. Mrs. Ben. Morgan.

1167. **Silver Ore,** Thurman Mine, Bradshaw District, Yavapai County, Arizona. Mrs. Ben. Morgan.

1168. **Silver Ore,** Black Warrior Mine, Bradshaw District, Yavapai County, Arizona. Mrs. Ben. Morgan.

1169. **Iron Ore,** Shasta, California. L. Wellendorff.

1170. **Manganese Ore,** Near Angel's Camp, Calaveras County, California. L. M. Cogswell.

1171. **Silicified Wood,** Near Angel's Camp, Calaveras County, California. L. M. Cogswell.

1172. **Cast of Elephas Primagenius,** Contra Costa County, California. H. G. Hanks.

1173. **Quicksilver Ore,** Containing free mercury and cinnabar, Wall Street Mine, Lake County, California. H. G. Hanks.

1174. **Paleozoic Fossils,** Mitchell's Coal Mine, twenty-three miles from Eureka, Nevada. H. K. Mitchell.

1175. **Magnesia** (?), Port Harford, San Luis Obispo County, California.

1176. **Silver Lead Ore,** Tecoma Mine, Lucin District, Utah. Friend & Johnson.

1177. **Pyrargyrite,** Savage Mine, Austin, Lander County, Nevada. H. I. Thornton.

1178. **Silver Lead Ore,** Sankey Mine, Delano District, Elko County, Nevada. Friend & Johnson.

1179. **Argentiferous Galena,** Washington District, Lander County, Nevada. H. I. Thornton.

1180. **Silicified Wood,** Mammoth District, Eastern Nevada. H. I. Thornton.

1181. **Calc Spar,** Bunker Hill, Nevada. H. I. Thornton.

1182. **Antimonial Copper and Silver Ore,** Ontario Mine, Utah.

1183. **Phosphatic Nodules,** Seaboard of South Carolina, between Charleston and Savanah. G. E. Manegault, Curator of Museum of Natural History.

1184. **Diatomaceous Earth,** Near Comanche, Calaveras County, California. Charles G. Yale.

1185. **Diatomaceous Earth,** Port Harford, San Luis Obispo County, California. George McNeir.

1186. **Silver Lead Ore,** Moody Mine, Delano District, Elko County, Nevada. Friend & Johnson.

1187. **Stetefeldtite,** High Bridge Mine, Nye County, Nevada. H. I. Thornton.

1188. **Calcite,** Eastern Nevada. H. I. Thornton.

1189. **Silver Ore,** Providential Mine, Austin, Nevada. H. I. Thornton.

1190. **Silver Lead Ore,** Raymond and Ely Mine, near the surface. H. I. Thornton.

1191. **Argentiferous Galena,** Washington District, Nev. H. I. Thornton.

1192. **Fossils,** Gold Run, Placer County, California. Mrs. E. Mills.

1193. **Silicified Wood,** Gold Run, Placer County, California. Mrs. E. Mills.

1194. **Aragonite,** Gold Run, Placer County, California. Mrs. E. Mills.

1195. **Carbonate of Magnesia,** Gold Run, Placer County, California. Mrs. E. Mills.

1196. **Silver Lead Ore,** Tecoma Mine, Lucin District, Utah. Friend & Johnson.

1197. **Obsidian,** Near Lower Lake, Lake County, California. H. B. Calahan.

1198. **Sharks' Teeth,** (Carcharadon maximum), Waters near Charleston, South Carolina. G. E. Manegault.

1199. **Argentiferous Galena,** Gregory Mine, Jefferson County, Montana. F. A. Benjamin.

1200. **Tincal,** Slate Range, San Bernardino County, California. H. G. Hanks.

1201. **Thinolite,** Mono Lake, Mono County, California. Henry G. Hanks.

1202. **Thinolite,** Mono Lake, Mono County, California. Henry G. Hanks.

1203. **Jasper,** Saucelito, Marin County, California. M. Attwood.

1204. **Gold Quartz,** New Albany Mine, Tuolumne County, California. F. A. Benjamin.

1205. **Sandstone Formation,** Saucelito, Marin County, California. M. Attwood.

1206. **Chalcedonic Quartz,** Vallecito, Calaveras County, California. Richard Cohen.

1207. **Obsidian,** Near Kelseyville, Lake County, California. H. B. Calahan.

1208. **Obsidian,** Near Kelseyville, Lake County, California. H. B. Calahan.

1209. **Obsidian,** Near Kelseyville, Lake County, California. H. B. Calahan.

1210. **Gravel,** San Pablo, Contra Costa County, California.

1211. **Beach Sand,** Monterey, California.

1212. **Lophortyx Californicus,** Shaw, California Quail; full grown male. E. F. Lorquin.

1213. **Columnaria Alveolata,** Goldfuss, lower silurian coral, Black River sandstone, Trenton period, Watertown, New York.

1214. **Saponite,** Santa Barbara, California. Dr. W. W. Finch.

1215. **Fossils,** Santa Ynez Range Mountains, Santa Barbara County, California. Dr. W. W. Finch.

1216. **Diatomite** (?), Santa Barbara County, California. Dr. W. W. Finch. [This is found in the strata of diatomaceous earth and is supposed to have been silicified by soluble silica from beds above. The name was suggested by Dr. W. W. Finch, who discovered it.]

1217. **Diatomaceous Earth,** Santa Barbara, California. Dr. W. W. Finch.

1218. **Fossils,** Santa Cruz, California.

1219. **Cinnabar and Sulphur,** Sulphur Bank, Lake County, California.

1220. **Tetradium,** Dana, Lower silurian coral, Black River Limestone, Trenton period, Watertown, New York.

1221. **Cinnabar,** Sulphur Bank, Lake County, California.

1222. **Pebbles,** From the beach at Crescent City, Del Norte County, California. W. B. Mason.

1223. **Rock Containing Cinnabar,** Old Chapman Mine, Santa Clara County, California.

1224. **Calcite,** From the Old Chapman Quicksilver Mine, Santa Clara County, California.

1225. **Silver Ore,** Nacimiento Mine, Triunfo, Lower California, Mexico. H. S. Brooks.

1226. **Silver Ore,** San Pedro Mine, Triunfo, Lower California, Mexico. H. S. Brooks.

1227. **Silver Ore,** Mendozena Mine, Triunfo, Lower California, Mexico. H. S. Brooks.

1228. **Silver Ore,** Mendozena Mine, Triunfo, Lower California, Mexico. H. S. Brooks.

1229. **Lepidolite,** Said to exist in vast quantities near San Diego, California. (See No. 2773.) Dr. George R. Ghisculius.

1230. **Orthis pectinella,** (Con. Var. Semiovalis, Hall,) Lower silurian fossil, Trenton period, Trenton limestone, New York.

1231. **Silver Ore,** Santa Teresa Mine, Triunfo, Lower California. H. S. Brooks.

1232. **Orthis pectinella,** Con, Lower silurian fossil, Trenton period, Trenton limestone, New York.

1233. **Silver Ore,** Soledad Mine, Triunfo, Lower California, Mexico. H. S. Brooks.

1234. **Silver Ore,** Fortuna Mine, Triunfo, Lower California, Mexico. H. S. Brooks.

1235. **Silver Ore,** San Nicolas Mine, Triunfo, Lower California, Mexico. H. S. Brooks.

1236. **Silver Ore,** Nacimiento Mine, Triunfo, Lower California, Mexico. H. S. Brooks.

1237. **Streptelasma corniculum,** Hall, Lower silurian fossil, Trenton period, New York.

1238. **Silver Ore,** Soledad Mine, Triunfo, Lower California, Mexico. H. S. Brooks.

1239. **Silver Ore,** San Nicolas Mine, Triunfo, Lower California, Mexico. H. S. Brooks.

1240. **Silver Ore,** San Pedro Mine, Triunfo, Lower California, Mexico. H. S. Brooks.

1241. **Silver Ore,** San Nicolas Mine, Triunfo, Lower California, Mexico. H. S. Brooks.

1242. **Silver Ore,** Soledad Mine, Triunfo, Lower California, Mexico. H. S. Brooks.

1243. **Rock Salt** (No. 1), Bay of San Francisco. B. F. Barton & Co. Manufactured by solar evaporation.

1244. **Rock Salt** (No. 2), Bay of San Francisco. B. F. Barton & Co. Manufactured by solar evaporation.

1245. **Silver Ore,** Maggie Mine, near Franconi City, Idaho. Louis Franconi.

1246. **Diatomaceous Earth,** Lost Spring Ranch, Lake County, California. H. B. Calahan.

1088. **Altered Quartzose, Trachyte, Diorite mounted,** Probably from near some large ore body. M. Attwood.

1088 Second. **Altered Quartzose, Trachyte, Diorite,** the feldspar mostly Sanidin. Hanging wall Standard Mine, Bodie District, Mono County, California. John F. Boyd.

1089. **Gold Quartz,** Standard Mine, Bodie District, Mono County, California. John F. Boyd.

1090. **Gold Quartz,** Standard Mine, Bodie District, Mono County, California. John F. Boyd.

1091. **Porphyry,** Foot wall Standard Mine, Bodie District, Mono County, California. John F. Boyd.

1092. **Mica Schist,** Ivawatt District, San Bernardino County, California. W. S. Keyes.

1093. **Gold Quartz,** German Mine, near Placerville, El Dorado County, California. C. Beard.

1094. **Gold Quartz,** Gwinn Mine, Calaveras County, California. John P. Bacon.

1095. **Kaolin,** Tuolumne County, Cal. J. P. Redmond.

1096. **Silver Ore,** San Francisco Mine, Ivawatt District, San Bernardino County, California. W. S. Keyes.

1097. ——— ———, Ivawatt District, San Bernardino County, California. W. S. Keyes.

1098. **Silver Ore,** Great Eastern Mine, San Bernardino County, California. W. S. Keyes.

1099. **Fossil Ivory,** Alaska. Aug. J. Bowie, Jr.

1100. **Gold in Talcose Slate,** Black Hills, Dakota Territory. J. W. Gashwiler.

1101. **Gold Quartz,** Homestake Mine, Black Hills, Dakota Territory. J. W. Gashwiler.

1102. **Vein Matter,** Homestake Mine, Black Hills, Dakota Territory. J. W. Gashwiler.

1103. **Vein Matter,** Homestake Mine, Black Hills, Dakota Territory. J. W. Gashwiler.

1104. **Silver Lead Ore,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1105. **Galena,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1106. **Silver Ore,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1107. **Silver Lead Ore,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1108. **Tschermigite,** Sulphur Bank Mine, Lake County, California. H. B. Calahan.

1109. **Cinnabar and Obsidian,** Sulphur Bank Mine, No. 2, Lake County, California. H. B. Calahan.

1110. **Silver Lead Ore,** New Coso Mine, Inyo County, California. W. H. V. Cronise.

1111. **Silver Ore,** South Barcelona Mine, Nye County, Nevada. D. F. Verdenal.

1112. **Silver Ore (sandstone),** Leeds Mining District, Washington County, Utah. D. F. Verdenal.

1113. **Silver Ore,** Resting Springs Mine, San Bernardino County, California. Wm. Masker.

1114. **Silver Ore,** Resting Springs Mine, San Bernardino County, California. Wm. Masker.

1115. ——— ———, Paso Robles, San Luis Obispo County, California. D. Blackburn.

1116. **Pitch Stone,** Paso Robles, San Luis Obispo County, California. D. Blackburn.

1117. **Quartz Breccia,** Paso Robles, San Luis Obispo County, California. D. Blackburn.

1118. **Silver Ore,** Grand Mine, Inyo County, California. W. D. Brown.

1280. **Orthoceras lamellosum,** Hall, Lower silurian fossil, Trenton period, Lorraine shale, New York.

1281. **Holopea,** Lower silurian fossil, Trenton period, Trenton limestone, New York.

1282. **Serpentine,** Market and Guerrero Streets, San Francisco, California. S. Heydenfeldt, Jr.

1283. **Diatomaceous Earth,** Lost Spring Ranch, Lake County, California. H. B. Calahan.

1284. **Diatomaceous Earth,** Santa Catalina Island, California. Lieutenant C. W. Jarboe.

1285. **Gold Quartz,** Crown Point Mine, Amador County, California. C. B. Mayon.

1286. **Silver Ore,** Tip Top Mine, Arizona. D. F. Verdenal.

1287. **Garnets,** in mica schist, Alaska. Jos. Wilkinson.

1288. **Pleurotomaria trochonema umbilicatum,** Hall, Lower silurian fossil, Trenton limestone, New York.

1289. **Ceraurus pleurex anthemus,** Green, Lower silurian fossil, Trenton limestone, New York.

1290. **Pleurotomaria lenticularis** (Raphistoma lenticulare), Emmons, Lower silurian fossil, Trenton limestone, New York.

1291. **Cinnabar,** Guadalupe Mine, Santa Clara County, California. Maurice Dore.

1292. **Cinnabar,** Guadalupe Mine, Santa Clara County, California. Maurice Dore.

1293. **Asbestus,** Shasta County, Cal. L. Wellendorff.

1294. **Cinnabar,** Guadalupe Mine, Santa Clara County, California. Maurice Dore.

1295. **Mariposite,** Josephine Mine, "Las Mariposas," California. D. Gourguet.

1296. **Mariposite,** Josephine Mine, "Las Mariposas," California. D. Gourguet.

1297. **Echinoderms,** near Cliff House, San Francisco, California. Mrs. M. Cohen.

1298. **Talcose Slate,** gold bearing, El Dorado County, California. T. A. Benjamin.

1299. **Gold Quartz,** New Albany Mine, Tuolumne County, California. T. A. Benjamin.

1300. **Gold Quartz,** Golden Star Mine, Cave Creek, Maricopa County, Arizona. W. B. Hellings.

1301. **Coal with Gypsum,** Antioch, California. Chas. Schneider.

1302. **Argentiferous Galena,** Hidalgo Mine, Inyo County, California. Judge Heydenfeldt.

1303. **Silver Ore,** Star Mine, Cherry Creek District, Nevada. William M. Hellman.

1304. **Subulites elongatus,** Emmons, Lower silurian fossil, Trenton limestone, New York.

1305. **Orthis testudinaria,** Dalman, Lower silurian fossil, Trenton limestone, New York.

1306. **Bucania punctifrons,** Hall, Lower silurian fossil, Trenton limestone, New York.

1307. **Murchisonia bicincta,** Hall, Lower silurian fossil, Trenton limestone, New York.

1308. **Bathyurus,** Lower silurian fossil, Trenton limestone, New York.

1309. **Camarella hemiplicata,** Hall, Lower silurian fossil, Trenton limestone, New York.

1310. **Tripolite,** Santa Barbara, California. W. W. Finch.

1311. **Bellerophon bilobatus,** Sowerby, Lower silurian fossil, Trenton limestone, New York.

1312. **Calymene senaria,** Lower silurian fossil, Trenton limestone, New York.

1313. **Conularia trentonensis,** Hall, Lower silurian fossil, Trenton limestone, New York.

1314. **Crytolites ornatus,** Con, Lower silurian fossil, Lorraine shale, New York.

1315. **Fossil Bones,** Santa Barbara, Cal. W. W. Finch.

1316. **Fossil Bones,** Santa Barbara, Cal. W. W. Finch.

1317. **Fossil Bones,** Santa Barbara, Cal. W. W. Finch.

1318. **Picrolite,** Market Street Cut, near Guerrero Street, San Francisco, California. H. C. Eldridge.

1319. **Schizocrinus nodosus,** Hall, Lower silurian fossil, Trenton limestone, New York.

1320. **Hydromagnesite,** Market Street Cut, near Guerrero Street, San Francisco, Cal. H. C. Eldridge.

1321. **Hydromagnesite,** Market Street Cut, near Guerrero Street, San Francisco, Cal. H. C. Eldridge.

1322. **Silver Ore,** Star Mine, Cherry Creek District, Nevada. William M. Hellman.

1323. **Ozocerite,** Utah. T. A. Benjamin.

1324. **Gold Quartz,** Golden Star Mine, Cave Creek District, Maricopa County, Arizona. W. B. Hellings.

1325. **Lithomarge with Fossil Leaves,** Alpha Mine, Table Mountain, Tuolumne County, California. John Collins.

1326. **Echinoderm,** Acapulco, Mexico. C. J. Schneider.

1327. **Fossil Bivalves,** Northern part of Sonora, Mexico. Alfred M. Kelly.

1328. **Fossil Wood,** Shasta County, Cal. L. Wellendorff.

1329. **Infusorial Earth** (?), About seven miles from Comanche, Calaveras County, California. D. W. West. [Said to contain gold and silver.]

1330. **Fossils in Rock,** Shasta County, California. L. Wellendorff.

1331. **Diatomaceous Earth,** Dutch Flat, Placer County, California.

1332. **Clay,** Duncan Mills, Marin County, California. R. H. Sinton.

1333. **Magnetite,** in dodecahedral crystals, six miles from Placer County, California. Prentiss Selby.

1334. **Lignite,** Carmelo Mine, Monterey County, California. J. L. Murphy.

1335. **West Country Rock,** Eight hundred and fifty-foot level, Baltimore Consolidated Mine. E. Strother.

1336. **Clay, Porphyry and Quartz,** One thousand and fifty-foot level, Baltimore Consolidated Mine, Comstock, Storey County, Nevada. E. Strother.

1337. ——— ———, One thousand and fifty-foot level, Baltimore Consolidated Mine, Comstock, Storey County, Nevada. E. Strother.

1338. ——— ———, One thousand and fifty-foot level, Baltimore Consolidated Mine, Comstock, Storey County, Nevada. E. Strother.

1339. **West Formation,** One thousand and fifty-foot level, Baltimore Consolidated Mine, Comstock, Storey County, Nevada. E. Strother.

1340. **West Country Rock,** going east, Baltimore Consolidated Mine, Comstock, Storey County, Nevada. E. Strother.

1341. **West Formation,** One thousand and fifty-foot level, Baltimore Consolidated Mine, Comstock, Storey County, Nevada. E. Strother.

1342. ——— ———, One thousand and fifty-foot level, Baltimore Consolidated Mine, Comstock, Storey County, Nevada. E. Strother.

1343. **Silver Ore,** Baltimore Consolidated Mine, Comstock, Storey County, Nevada. E. Strother.

1344. **West Country Rock,** Eight hundred and fifty-foot level, Baltimore Consolidated Mine, Comstock, Storey County, Nevada. E. Strother.

1345. **West Country Rock**, going east, Baltimore Consolidated Mine, Comstock, Storey County, Nevada. E. Strother.

1346. **Silicified Wood**, Lower California, Mexico.

1347. **Hyalite on Pyrites**, Kelseyville, Lake County, California. H. B. Calahan.

1348. **Diluvial Conglomerate** (?), Bay of San Francisco. S. Heydenfeldt, Jr.

1349. **Clay**, One thousand and fifty-foot level, Baltimore Consolidated Mine, Comstock, Storey County, Nevada. E. Strother.

1350. **Red Clay**, One thousand and fifty-foot level, Baltimore Consolidated Mine, Comstock, Storey County, Nevada. E. Strother.

1351. **Clay**, One thousand and fifty-foot level, Baltimore Consolidated Mine, Comstock, Storey County, Nevada. E. Strother.

1352. **Silver Ore**, Hackberry Mine, Peacock Mountains, Mohave County, Arizona. C. V. McDermot.

1353. **Rock Specimen**, Two thousand-foot level, Crown Point Mine, Comstock, Storey County, Nevada. M. Attwood.

1354. **Silver Ore**, Paradise Valley, Nev. Tod. Robinson.

1355. **Fossil Ammonite**, Shasta County, California. L. Wellendorff.

1356. **Ammonite**, Shasta County, Cal. L. Wellendorff.

1357. **Fossil**, Shasta County, California. L. Wellendorff.

1358. **Coal** (?), Kelseyville, Lake County, California. H. B. Calahan.

1359. **Crytoceras annulatum**, Hall, Lower silurian fossil, Trenton limestone, New York.

1360. **Ore**, said to contain nickel and cobalt, Columbus, Esmeralda County, Nevada. C. A. Luckhardt.

1361. **Silver Ore,** Champion Mine, Globe District, Pinal County, Arizona. George Phillips.

1362. **Diatomaceous Earth** (?), near Comanche, Calaveras County, California. Mr. West.

1363. **Paving Stone,** Used in the streets of Paris, France.

1364. **Paving Stone,** Used for crossings in the streets of Paris, France.

1365. **Five Samples of Chromic Iron,** from as many different deposits, within twenty miles of Fresno City, Fresno County, California. Richard Norris.

1366. **Floating Bricks,** made from diatomaceous earth, with a small quantity of clay. [Useful for the building of light masonry, filling in of walls, and between floors of wooden buildings, to render them to a certain extent fire proof. These bricks are made wholly of California materials. Similar ones were shown in the Italian Department of the Paris Exposition of 1878.] Gladding, McBean & Co.

1367. **Crucibles.** Believed to be the first ever made on the Pacific Coast. Wholly of California materials. Gladding, McBean & Co.

1368. **Indian Implement,** found half a mile southwest of Alviso, Santa Clara County, California. Ed. A. T. Gallagher.

1369. **Gold** from the Bodie Mines, Mono County, California. An alloy of gold and silver, known in mineralogy as Electrum. Melville Attwood.

1370. **Indian Arrow Head,** from the north bank of the Novarro River, Mendocino County, California. William H. Moody.

1371. **Itacolumite**—Flexible sand stone, Georgia. This sedimentary rock is an associate of diamonds. Henry G. Hanks.

1372. **Scutella interlineata,** Ocean beach, near San Francisco. H. S. Durden.

1373. **Silver Ore,** Argenta Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1374. **Silver Ore,** Burleigh Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1375. **Silver Ore,** Eagle Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1376. **Silver Ore,** East Side Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1377. **Silver Ore,** Grand Dipper Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1378. **Silver Ore,** Independence Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1379. **Silver Ore,** Lucky Cuss Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1380. **Silver Ore,** Monitor Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1381. **Silver Ore,** Old Guard Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1382. **Silver Ore,** Sunset Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1383. **Silver Ore,** Terrible Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1384. **Silver Ore,** Tribute Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1385. **Silver Ore,** Toughnut Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1386. **Silver Ore,** Wedge Mine, Tombstone District, Pima County, Arizona. Charles W. Banks.

1387. **Mass of Flint,** from which flakes have been broken in pre-historic times. [It may be considered as part of the stock in trade of the ancient arrow-head maker—Indre et Loire, France.]

1388. **Stream Tin,** New England, New South Wales. John Ingham O'Daly.

1389. **Stream Tin** (No. 2), Graveyard Mine, Vegetable Creek, New South Wales. John Ingham O'Daly.

1390. **Obsidian—Volcanic Glass,** Mono Lake, Mono County, California. Melville Attwood.

1391. **Volcanic Conglomerate,** Mono Lake, Mono County, California. Melville Attwood.

1392. **Auriferous Quartz,** from Georgia. It occurs in slate. [The negroes dig it up in the Spring after the Winter frosts have disintegrated it, and work it with profit for the gold it contains.] General Geo. W. Deitzler.

1393. **Gold-bearing Quartz,** Homer Mill and Mining Company, Mono County, California. Hon. Jos. Wasson.

1394. **Galena Ore,** Homer Mill and Mining Company, Mono County, California. Hon. Joseph Wasson.

1395. **Copper Ore,** Boundary of Colorado and New Mexico. Seth Cook.

1396. **Sesqui oxide of Chromium.**

1397. **Chalcedony,** Soledad Canyon, S. P. R. R., San Bernardino County, California. Henry Sherwood.

1398. **Gold Quartz,** Fresno Enterprise Mine, five miles from Fresno Flat, Fresno County, California. Fresno Enterprise Company.

1399. **Rich specimen of gold quartz with chalcopyrite, galena and pyrite,** Idaho Mine, Grass Valley, Nevada County, California. Idaho Mining Company. [This specimen was exhibited at the Paris Exhibition of 1878.]

1400. **Stone Hammer,** found sixty feet below the surface. Little York Mining and Water Company, Nevada County, California. Charles Mitchell, Paris Exposition collection.

1401. **Bronze Chain Cable,** Cast on shore on the coast of Oregon, between the mouth of the Columbia River and Tillamook Bay. George W. Hume, Astoria.

1402. **Chromic Iron,** El Dorado County, one mile and a half from railroad. John F. Bixby.

1403. **Calamine, Silicate of Zinc,** Ogdensburgh, Sterling Hill, New Jersey.

1404. **Copper Mica,** Burgess, Canada.

1405. **Hubnerite, Tungstate of Manganese,** Enterprise Mine, Mammoth District, Nye County, Nev.

1406. **Quartz Sand,** Spinks' Coal Mine, two miles from Lincoln, Placer County, Cal. Cook & Spinks.

1407. **Drusy Quartz,** Missouri.

1408. **Mica,** Canada.

1409. **Fossil Coral—Chaetetes muricata,** Lower silurian, Lebanon, Ohio.

1410. **Fossil Coral—Favosites,** Lower silurian, Grant County, Indiana.

1411. **Clay,** Spinks' Coal Mine, two miles from Lincoln, Placer County, California. Cook & Spinks.

1412. **Silver Ore,** Whiteman Mine, Deep Spring Valley, Inyo County, California. W. S. Woodhull.

1413. **Quartz Geode,** Valley of the Upper Mississippi River.

1414. **Atacamite,** Atacama, Chile.

1415. **Automolite,** Ogdensburgh, New York.

1416. **Quartz Crystals,** Placer County, California.

1417. **Silver Ore,** Consolidated Virginia Mine. Paris Exposition collection. John W. Mackay.

1418. **Silver Ore,** Justice Mine, Comstock Lode, Virginia, Nevada. Paris Exposition collection. John W. Mackay.

1419. **Gypsum,** Nova Scotia.

1420. **Silicified Wood,** Cavity lined with crystals of quartz and calcite, Idaho.

1421. **Chalcedony and Quartz,** from the same silicified tree from which No. 1420 was taken, Idaho.

422. **Gold Quartz,** from the Nioma and Wasatch mines of the Homer Mill and Mining Company, Homer District, Mono County, California.

1423. **Silver Ore,** Saxton Mine, Turkey Creek District, Yavapai County, Arizona. G. D. Wyman.

1424. **Copper Ore—Bornite,** Copiapo, Chile.

1425. **Hematite,** Ogdensburgh, New Jersey.

1426. **Coquimbite,** Copiapo, Chile.

1427. **Chalcedony,** Douglassville, Tuolumne County, California. Paris Exposition collection.

1428. **Erythrite—Arseniate of Cobalt,** Huasco, Chile.

1429. **Fluor Spar,** Derbyshire, England.

1430. **Actinolite,** Contra Costa County, California.

1431. **Gneiss,** brought to San Francisco on river schooners.

1432. **Silurian Limestone,** Indiana.

1433. **Chrysocolla—Silicate of Copper,** Union Mine, Inyo County, California.

1434. **Bornite with Calcite,** Coquimbo, Chile.

1435. **Silicified Wood,** Reno, Nevada. R. L. Fulton.

1436. **Thinolite.** This substance forms in the beds of alkaline lakes in the great basin, it is a pseudomorph after Gay Lussite. Pyramid Lake, Roop County, Nevada. R. L. Fulton.

1437. **Alkaline Incrustation—Thinolite,** formed on a pebble in Pyramid Lake, Roop County, Nevada. R. L. Fulton.

1438. **Silver Ore,** Panamint District, Inyo County, Cal.

1439. **Picrolite,** Maryland Mine, Grass Valley, Nevada County, California. Paris Exposition collection.

1440. **Calcite Crystals,** Humboldt County, Nevada.

1441. **Silver Ore,** Sierra Nevada Mine, two thousand two hundred-foot level, Comstock Lode, Storey County, Nevada. R. L. Fulton.

1442. **Croppings of Coal Veins,** Carbon River, Washington Territory.

1443. **Steatite,** fourteen miles below San Pedro, Los Angeles County, California, on the coast.

1444. **Ore** from the Jones and Kinkead Mine, Pyramid District, twenty-eight miles northeast from Reno, Nevada, four hundred-foot level. R. L. Fulton.

1445. **Stream Tin,** near Coneto, Durango, Mexico. S. Heydenfeldt, Jr.

1446. **Quartz Breccia,** Hirschman's Hydraulic Mines, Nevada County, Cal. Paris Exposition collection.

1447. **Copper Ore,** Arethusa Mine, Oro Blanco, Pima County, Arizona. Paris Exposition collection.

1448. **Diatomaceous Earth,** Port Harford, San Luis Obispo County, California. Hon. W. J. Graves.

1449. **Quartz Crystals coated with Malachite,** Panamint, Inyo County, California. Paris Exposition collection.

1450. **Silver Copper Ore,** Alexandria Mine, Grantsville, Nye County, Nevada. Paris Exposition collection.

1451. **Quartz Crystals,** Calaveras County, California. S. Heydenfeldt, Jr.

1452. **Silver Gold Ore,** Black Jack Mine, Silver City, Idaho. Mr. Horton.

1453. **Gold Quartz,** Talisman Mine, Amador County, California.

1454. **Wall Rock,** Belcher Mine, Comstock Lode, Storey County, Nevada.

1455. **Auriferous Ore,** Star Mine, Tuolumne County, California. Paris Exposition collection.

1456. **Gold Quartz,** Central Mine, three miles north of Haywards, Amador County, California. Joseph W. Young, Jr.

1457. **Gold Quartz,** Brunswick Gold and Silver Mining Company, Nevada County, California. Paris Exposition collection.

1458. **Silver Ore,** De Frees Mill and Mining Company, Tuscarora, Elko County, Nevada. Paris Exposition collection.

1459. **Steatite Wall Rock,** Maryland Mine, Grass Valley, Nevada County, Cal. Paris Exposition collection.

1460. **Impure Graphite,** near Carrondalet, Nevada.

1461. **Silver Lead Ore,** Anchor Mine, Silver District, Yuma County, Arizona.

1462. **Galena—Washed Bowlder,** Anchor Mine, Silver District, Pima County, Arizona.

1463. **Wall Rocks,** Anchor Mine, Silver District, Pima County, Arizona.

1464. **Silver Ore,** Holmes Mine, Turkey Creek District, Yavapai County, Arizona. Two samples from the dump. A. J. Holmes.

1465. **Silver Ore,** Holmes Mine, Turkey Creek District, Yavapai County, Arizona. Sample from the bottom of shaft. A. J. Holmes.

1466. **Silver Ore,** Holmes Mine, Turkey Creek District, Yavapai County, Arizona. Low grade ore. A. J. Holmes.

1467. **Silver Ore,** Holmes Mine, Turkey Creek District, Yavapai County, Arizona. Rich ore from the hanging wall in the drift north from the bottom of the shaft. A. J. Holmes.

1468. **Silver Copper Ore,** Holmes Mine, Turkey Creek District, Yavapai County, Arizona. A. J. Holmes.

1469. **Wall Rock,** Holmes Mine, Turkey Creek District, Yavapai County, Arizona. A. J. Holmes.

1470. **Silver Ore,** Holmes Mine, Turkey Creek District, Yavapai County, Arizona. From the south side of shaft, five feet from the bottom. A. J. Holmes.

1471. **Silver Ore,** Holmes Mine, Turkey Creek District, Yavapai County, Arizona. From the end of the drift north of the bottom of the shaft. A. J. Holmes.

1472. **Silver Ore,** Hidden Treasure Mine, Turkey Creek District, Yavapai County, Arizona. A. J. Holmes.

1473. **Native Sulphur,** Sulphur Bank, Lake County, Cal.

1474. **Silver Ore,** Quanajuata Mine, Pima County, Arizona. A. J. Holmes.

1475. **Silver Ore,** Deer Island, coast of Maine. Analysis by Prof. Sharples, of Boston; zinc, 39.13; lead, 13.56; copper, 4.40; sulphur, 25.32; iron, 4.86; limestone, 7.23; native rock, 5.50 — 100.00. Assay by Falkenau & Reese, gold trace; silver per ton of 2,000 pounds, 20.66 Troy ounces. R. F. Knox.

1476. **Fossil,** found in formation overlying coal, Curry County, Oregon. Paris Exposition collection.

1477. **Foot Wall,** New Almaden Quicksilver Mine, Santa Clara County, Cal. Paris Exposition collection.

1478. **Wall Rock—Horse,** Idaho Mine, Grass Valley, Nevada County, Cal. Paris Exposition collection.

1479. **Wall Rock,** Maryland Mine, Grass Valley, Nevada County, California. Paris Exposition collection.

1480. **Silver Ore,** Webfoot Mine, near Picket Post, Pinal County, Arizona.

1481. **Silver Ore,** Mount Potosi Mine, Columbus District, Esmeralda County, Nevada. A. J. Holmes.

1482. **Silver Ore,** Empire Mine, Tombstone District, Pima County, Arizona.

1483. **Stream Tin,** Durango, Mexico.

1484. **Volcanic Ash,** Picket Post, Pinal County, Arizona.

1485. **Quartz Coated with Calcite,** Pinal County, Arizona.

1486. **Sandstone,** Glenn Mills, San Mateo County, California. David J. Mills.

1487. **Red Porphyry,** near Wickenburgh, Maricopa County, Arizona.

1488. **Porphyry,** Wall Rock Mammoth Mine, Cherry Creek District, Yavapai County, Arizona.

1489. **Red Granite,** Summit between Phœnix and Prescott, Yavapai County, Arizona.

1490. **Porphyry,** Summit between Phœnix and Prescott, Yavapai County, Arizona.

1491. **Silver Ore,** Tiger Mine, Bradshaw District, Yavapai County, Arizona.

1492. **Calcite,** Mammoth Mine, Cherry Creek District, Yavapai County, Arizona.

1493. **Gold Quartz,** Mammoth Mine, Cherry Creek District, Yavapai County, Arizona. (Selected sample.)

1494. **Gold Ore,** Mammoth Mine, Cherry Creek District, Yavapai County, Arizona. (Sulphuret specimen.)

1495. **Rich Gold Ore,** Sitting Bull Mine, Cherry Creek District, Yavapai County, Arizona.

1496. **Rich Silver Lead Ore,** Silver Belt Mine, near Spaulding's Agua Fria, Yavapai County, Arizona.

1497. **Gold Ore,** Mammoth Mine, Cherry Creek District, Yavapai County, Arizona. (From lowest workings.)

1498. **Silver Ore,** Schuyler Ledge, Cherry Creek District, Yavapai County, Arizona.

1499. **Azurite (Carbonate of Copper) with Galena—(Sulphide of Lead),** Union Mine, Inyo District, Inyo County, California.

1500. **Gold Quartz,** Vulture Mine, Maricopa County, Arizona.

1501. **Semi Opal,** Portersville, Tulare County, California. Dr. S. G. George.

1502. **Gold Quartz,** El Capitan Mine, North Fork District, Fresno County, California. Smith Norris.

1503. **Silver Ore,** Ygnacio Mine, Cerro Gordo District, Inyo County, California. Hon. Joseph Wasson.

1504. **Yellow Clay—Mistaken for Native Sulphur,** Redington Mine, Lake County, California. G. W. Spencer.

1505. **Pyrites (Sulphide of Iron),** Redington Mine, Lake County, California. G. W. Spencer.

1506. **Gold Quartz,** Oro Mine, Bodie District, Mono County, California. Medium Grade. Hon. Jos. Wasson.

1507. **Silver Sandstone** (so called), Leeds Mine, Washington County, Utah. J. W. Pew.

1508. **Silver Lead Ore,** Modoc Mine, Inyo County, California. J. W. Pew.

1509. **Silver Ore,** Belmont Mine, Nye County, Nevada. J. W. Pew.

1510. **Graphite,** Juanita Mine, sixty miles northwest of Guaymas, Mexico. T. E. Jewell.

1511. **Silver Lead Ore,** Principally Anglesite or Sulphate of Lead, Raymond & Ely Mine, Lincoln County, Nevada. J. W. Pew.

1512. **Paleozoic Fossils,** Highest peaks of the Inyo Mountains, Cerro Gordo District, Inyo County, California. John H. Holt.

1513. **Silver Ore,** Hackberry Mine, Peacock Mountains, Mohave County, Arizona. A. J. Holmes.

1514. **Hyalite—A variety of Opal,** Found plentifully in cavities in basaltic lava, township ten north, and ranges five and six east, Lake County, California. J. F. Dewoody, County Surveyor.

1515. **Pyrite and Hematite** (Rich in gold), Occidental Mine, Nevada County, California. Bruce Lee.

1516. **Stibnite—Sulphide of Antimony,** Utah. N. P. Sheldon.

1517. **Wall Rock,** Utah Mine, Comstock Lode, Virginia, Nevada, two thousand-foot level. J. M. Taylor.

1518. **Feldspathic Sandstone** (?) Sedimentary Rock, composed of feldspar, quartz mica and hornblende, Telegraph Hill, San Francisco.

1519. **Black Sand,** Concentration from hydraulic washing, Hopland, Mendocino County, California. Mechanical Analysis, heavy non-magnetic portion (No. 1520 B), 88.3210 per cent.; magnetic portion (No. 1520 C), 8.2420; light sand (No. 1520 D,) 2.8740; platiniridium (No. 1522), 0.5505; gold (No. 1523). 0.0125.

1520. (**A.**) **Coarse Portion** (Separated from No. 1519) Black Sand Concentration, Hopland, Mendocino County, California.

1520. (**B.**) **Heavy Non-magnetic Portion Black Sand Concentration,** Hopland, Mendocino County, California.

1520. (**C.**) **Magnetic Portion Black Sand Concentration,** Hopland, Mendocino County, California.

1520. (**D.**) **Light Sand—Black Sand Concentration,** Hopland, Mendocino County, California.

1521. **Platiniridium, Cinnabar—Mercury, Zircons, etc., Black Sand Concentration,** Hopland, Mendocino County, California.

1522. **Platiniridium,** Concentrated from No. 1519—Black sand concentration, Hopland, Mendocino County, California.

1523. **Gold,** Concentrated from No. 1519—Black sand concentration, Hopland, Mendocino County, Cal.

1524. **Model of Noonday Mine,** Bodie District, Mono County, California. Hon. W. M. Stewart.

1525. **Gold Quartz,** Fresno County, California.

1526. **Sand containing Gold, Platinum, Zircons, Diamonds (?), and Magnetite,** Pine Grove, Amador County, California. S. W. Collins.

1527. **Gold Ore,** Tellurium Mine, Pine Grove, Amador County, California. S. W. Collins.

1528. **Quartz and Chalcedony Pebbles** (Selected), Pescadero Beach, San Mateo County, California. Miss Blanche Brumagim.

1529. **Black Sand,** Composed of quartz and magnetite with zircons, Nevada. F. H. Merrill.

1530. **Fossils,** Near Seattle, Washington Territory. Paris Exposition Collection.

1531. **Silver Copper Ore,** Six miles from Lane's Crossing, San Bernardino County, California. Wm. H. Moore.

1532. **Model of Corrugated and Rocking Ore Crusher.** David B. James.

1533. **Sample of Ore,** Crushed in model No. 1532. David B. James.

1534. **Basalt,** Containing metallic iron and sesqui-chloride of iron, Greenland. Henry G. Hanks.

1535. **Sulphate of Copper** (Crystallized), Prentiss Selby. Selby Smelting and Lead Company, San Francisco.

1536. **Sample of Peat or Turf,** Port Rush, County Antrim, Ireland. J. Z. Davis.

1537. **Sample of Peat or Turf,** Killarney, County Kerry, Ireland. J. Z. Davis.

1538. **Peacock Coal,** Schuylkill, Pennsylvania. J. Z. Davis.

1539. **Serpentine** (Polished), Center of Lone Mountain Cemetery, San Francisco. J. Z. Davis.

1540. **Serpentine** (Five varieties), Lone Mountain Cemetery, San Francisco. J. Z. Davis.

1541. **Ore,** From Bodie Mine, Bodie Mining District, Mono County, California —gold and silver. Hon. Joseph Wasson.

1542. **Porphyry—Argentiferous,** Bodie Mine, Bodie Mining District, Mono County, California. Hon. Joseph Wasson.

1543. **Red Float,** Found, as a rule, over the surface of Bodie Bluff, Mono County, California, and which imparts a characteristic red color to the whole belt. Hon. Joseph Wasson.

1544. **Argentiferous Limestone,** Sigourney Claim, two and one half miles south of the Standard Mine, Bodie, Mono County, California. This sample is thought to illustrate surface change from gold to silver bearing rocks. Hon. Joseph Wasson.

1545. **Argentiferous Limestone,** Assay value $35 to $50 per ton, two hundred-foot level Noonday Mine, Bodie, Mono County, California. Hon. Joseph Wasson.

1546. **Gold Ore,** Four hundred-foot level Mono Mine, Bodie District, Mono County, California. Sixty feet already passed through. Hon. Jos. Wasson.

1547. **Sample,** Broken from one of the chalcedonic bowlders, strewn over the surface, beginning on the Syndicate Claim and crossing the Tioga, Standard, Bodie, and Mono Claims, Bodie, Mono County, California. These bowlders are built up in strata, which disintegrate into concave layers. Hon. Joseph Wasson.

1548. **Sample** Of the dividing rock separating the "white cap" from the "brown yellow," South Belvidere Mine, six hundred and thirty feet deep, Bodie District, Mono County, Cal. Hon. Jos. Wasson.

1549. **Pacific Magic Polish,** Las Tablas Creek, San Luis Obispo County, California. West half of the northwest quarter of section twenty-two, township twenty-six south, range ten east, Mt. Diablo base and meridian. It is not diatomaceous earth. Under the microscope the particles are seen to be regular in size and quite amorphous. The deposit is one thousand three hundred feet above the sea level, lies horizontally, and is about six feet in thickness. An analysis is being made by the Agricultural Bureau at Washington. E. Carpenter.

1550. **Quicksilver Ore,** Josephine Mine, San Luis Obispo County, California, township twenty-seven south, range ten east, Mt. Diablo meridian. Ezra Carpenter.

1551. **Quicksilver Ore,** Libertad Mine, San Luis Obispo County, California, township twenty-seven south, range ten east, Mt. Diablo meridian. Ezra Carpenter.

1552. **Limonite or Hematite,** Harrington Iron Mine, San Luis Obispo County, California, four miles southwest of the city of San Luis Obispo, on subdivision of the Rancho Canada De Los Osos. Township thirty-one south, ranges eleven and twelve east, Mount Diablo meridian. The ledge has a northwesterly direction with a dip to the west. Supply of ore seemingly inexhaustible. An assay has been made showing eighty-five per cent. of metallic iron. Ezra Carpenter.

1553. **Skull of Flat Head Indian.** Dr. Philip Harvey, Portland, Oregon.

1554. **Cast of a Stone Image,** Found at Picket Post, Pinal County, Arizona. The original is in the possession of Mrs. Forman of San Luis Obispo, Cal.

1555. **Average Sample of the Ores,** From Cerro Pasco Mine, Peru, South America. These ores are called technically "Cascajos." They assay about fifteen dollars to the ton.

1556. **Portion of a Rafter,** From the ruin of Casa Grande, Pinal County, Arizona, showing the marks of the stone ax by which it was cut. Henry G. Hanks.

1557. **Ancient Pottery,** From the Mesa, near the ruin of Casa Grande, Pinal County, Arizona. Henry G. Hanks.

1558. **Concrete,** Of which Casa Grande is built, Pinal County, Arizona. Henry G. Hanks.

1559. **Silver Lead Ore,** Eagle Mine, Lander County, Nevada. Richard Cohen.

1560. **Silver Copper Ore,** Lime Point Mine, New Boston Consolidated Mining Company, Esmeralda County, Nevada. Victor Fernbach.

1561. **Silver Gold Ore,** Orient Mine, Bodie Mining Company, Mono County, California. V. Fernbach.

1562. **Gypsum—Alabaster,** About sixty miles east of Florence, Pinal County, Arizona. Said to occur in a bed twenty to thirty feet thick. Dr. A. J. Thibodo.

1563. **Silver Ore,** Brophy Mine, Flowery District, Storey County, Nevada. Victor Fernbach.

1564. **Gold Quartz,** McNulty Mine, Electric Mining Company, El Dorado County, California.

1565. **Silver Ore,** Mexican Union Mine, Esmeralda County, Nevada. Victor Fernbach.

1566. **Rich Silver Ore,** Eberhardt Mine, White Pine County, Nevada. S. Heydenfeldt, Jr.

1567. **Silver Ore,** North Bonanza Mine, Flowery District, Storey County, Nevada. Victor Fernbach.

1568. **Silver Ore,** Victor Mine, Columbus District, Esmeralda County, Nevada. Victor Fernbach.

1569. **Silver Ore,** Kaleseed Mine, Old Battle Mountain, Lander County, Nevada. Richard Cohen.

1570. **Sample of Mineral Water,** Spring No. 1, San Luis Obispo County, California, Cuesta Ranch, northwest quarter of the southwest quarter of section seven, township thirty south, range thirteen east, Mount Diablo meridian. Ezra Carpenter.

1571. **Sample of Mineral Water,** Spring No. 2, San Luis Obispo County, California, Cuesta Ranch, northwest quarter of the southwest quarter of section seven, township thirty south, and range thirteen east, Mount Diablo meridian. E. Carpenter.

1572. **Sample of Water,** From the Arroyo Grande Warm Springs, Santa Manuella Rancho, San Luis Obispo County, California. Sulphur water No. 1. D. F. Newsome. [This water passes through an asphaltum bed, to which fact may be attributed in part its medicinal properties.]

1573. **Sample of Water,** From the Arroyo Grande Warm Springs, sulphur water No. 2, Santa Manuella Rancho. D. F. Newsome.

1574. **Sample of Water,** From the Arroyo Grande Warm Springs, sulphur water No. 3, Santa Manuella Rancho, San Luis Obispo County, California. D. F. Newsome.

1575. **Sample of Mineral Water,** Arroyo Grande Warm Springs, sulphur water No. 4, Santa Manuella Rancho, San Luis Obispo County, California. D. F. Newsome.

1576. **Sample of Mineral Water,** Near Bridgeport, Mono County, California. Hon. Joseph Wasson. [This spring has deposited a very large quantity of aragonite or calcite.]

1577. **Sample of Mineral Water,** Anti-fat Springs, San Bernardino County, California. W. T. Garratt.

1578. **Chromic Iron,** Pick and Shovel Mine, six miles northeast from the city of San Luis Obispo, California. Direction of the vein, northeast to southwest, dips west forty-five degrees. Ore extracted to July, 1880, four hundred tons.

1579. **Silver Ore** (?), Washington Mine, six miles northeasterly from San Luis Obispo, Cal. E. Carpenter.

1580. **Silver Ore** (?), Kidd Mine, six miles easterly from San Luis Obispo, California. Ezra Carpenter.

1581. **Silver Ore** (?), Mountain Mystery Mine, six miles northeasterly from San Luis Obispo, California. Ezra Carpenter.

1582. **Silver Ore** (?), Whig Mine, six miles northeasterly from San Luis Obispo, California. E. Carpenter.

1583. **Silver Ore** (?), Victoria Mine, six miles northeasterly from San Luis Obispo, California. E. Carpenter.

1584. **Silver Ore** (?), Soper Consolidated Mine, six miles northeasterly from San Luis Obispo, California. Ezra Carpenter.

1585. **Silver Ore**, Oro Mining Company, Bodie, Mono County, California. D. Walker, M. D.

1586. **Silver Ore**, Parole Mine, Lewis District, Lander County, Nevada. Richard Cohen.

1587. **Rock Specimen**, Frenchman's Road, Bear Valley, Mariposa County, California. M. Gourguet.

1588. **Coarse Sand**, From the beach at Pescadero, San Mateo, California. Miss Jennie Brumagim.

1589. **Silicified Wood**, Unga Island, Alaska. J. Z. Davis.

1590. **Ferruginous Limestone** (water worn), Taken from a cave in New Mexico, supposed by the finder to be an ornamental war club. John W. Mackay.

1591. **Gypsum—Selenite**, Moleje, Lower California, Mexico. S. D. Brastow.

1592. **Sample of Water**, From Mono Lake, Mono County, California. Melville Attwood.

1593. **Wulfenite**, Eureka Consolidated Mine, Eureka, Nevada. H. M. Levy.

1594. **Wood**, From ruin of Casa Grande, Pinal County, Arizona. Lintel over west door. A. J. Holmes.

1595. **Thinolite**, Largely used for lime, Mono Lake, Mono County, California. Melville Attwood.

1596. **Copper Ore,** Eureka Mine, Columbia Lode, Puebla or Hot Springs District, Humboldt County, Nevada. James C. Weir.

1597. **Gold Quartz,** Hanover Mine, average ore, Fine Gold Gulch, Fresno County, California. Henry A. Newton.

1598. **Gold Quartz,** Rich specimen, Hanover Mine, Fine Gold Gulch, Fresno County, California. Henry A. Newton. [This specimen shows electrum in wire form.]

1599. **Stone Hammer or Ax,** Near Yellow Jacket Mine, Oro Blanco Mining District, Pima County, Arizona. Gen. George W. Deitzler.

1600. **Stone Hammer or Ax,** Near ruin of Casa Grande, Pinal County, Arizona. H. G. Hanks.

1601. **Stone Pestle,** Near Calistoga, Napa County, California. Henry G. Hanks.

1602. **Stone Ax,** Near the ruin of Casa Grande, Pinal County, Arizona. Henry G. Hanks.

1603. **Stone Ax,** From ruins in Salt River Valley, Maricopa County, Arizona. Henry G. Hanks.

1604. **Egyptian Scarabeus,** Found on a mummy at Thebes (flat surface engraved with four figures and hieroglyphics). E. W. Pailhet.

1605. **Silver Watch Case,** Found seven feet under ground, with a willow tree ten inches in diameter growing over it; a knife much corroded, and a bone sawed off, were also found, five miles below Oroville, on the banks of the Feather River, Butte County, California. H. G. Hanks.

1606. **Red Hematite,** Used as a pigment by the Indians of Owen River Valley, Inyo County, California. Henry G. Hanks.

1607. **Indian Arrow Head of Jasper,** Boone County, Kentucky. Henry G. Hanks.

1608. **Indian Arrow Head of Jasper,** Hamilton County, Ohio. Henry G. Hanks.

1609. **Knives of Obsidian,** Margin of Clear Lake, Lake County, California. Henry G. Hanks.

1610. **Spear Heads of Obsidian,** Margin of Clear Lake, Lake County, California. Henry G. Hanks.

1611. **Arrow Heads of Obsidian,** Margin of Clear Lake, Lake County, California. H. G. Hanks.

1612. **Arrow Heads of Jasper,** St. Clair County, Michigan. Henry G. Hanks.

1613. **Bone** (Split to extract the marrow), Indian Mound, near Calistoga, Napa County, California. Henry G. Hanks.

1614. **Concrete,** From ruin of Casa Grande, Pinal County, Arizona, showing outer surface.

ANALYSIS.

Sand and insoluble	74.00
Carbonate of lime	17.00
Iron and alumina	1.10
Water	4.80
Organic matter and loss	3.10
	100.00

1615. **Concrete,** From earth works, ruin of Casa Grande, Pinal County, Arizona. Henry G. Hanks.

1616. **Concrete,** From inner wall, Casa Grande, Pinal County, Arizona, showing polished surface. H. G. Hanks.

1617. **Stone Knife,** From a lake in Switzerland. H. G. Hanks.

1618. **Scraper of Jasper,** St. Clair County, Michigan. Henry G. Hanks.

1619. **Flint Hatchet,** Prepared for polishing, Yonne, France. Henry G. Hanks.

1620. **Flint Chips,** Polished Stone Period (Age de la Pierre Poli), Station De Soyon, Ardeche, France. Henry G. Hanks.

1621. **Flint Chips,** Cut or Hewed Stone Period (Periode de la Pierre Taille), France. Henry G. Hanks.

1622. **Flint Chips,** Polished Stone Period (Age de la Pierre Poli), Grottes De Soyon, Ardeche, France. Henry G. Hanks.

1623. **Flint Chips,** Cut or Hewed Stone Period (Periode de la Pierre Taille), Grottes De Moustiers, France. Henry G. Hanks.

1624. **Flint Chips,** Polished Stone Period (Age de la Pierre Poli), Station De Toulnagues, Oise, France. Henry G. Hanks.

1625. **Arrow Heads and Stone Beads,** Found on the highest peaks of the White Mountains of Arizona, twelve thousand feet above the sea, while building a camp fire, by J. J. Vosburgh, of Globe City, Pinal County, Arizona.

1626. **Mica Schist,** Found at the ruin of Casa Grande, Pinal County, Arizona, lying on the ground in considerable quantities. Probably used in the manufacture of pottery. Henry G. Hanks.

1627. **Thinolite** (See No. 1436), Found near the road between Fort Churchill and Wadsworth, Humboldt County, Nevada. C. J. Collins.

1628. **Calcite,** Comstock Lode, Virginia, Nevada. C. J. Collins.

1629. **Quartz with Telluric Gold,** Fall Creek Mine, Washington township, Nevada County, California. John Bell.

1630. **Fossils—Paleozoic** (?) Found eight thousand five hundred feet above the sea, Mineral King Mining District, Tulare County, Cal. S. G. George, M. D.

1631. **Stibnite (Sulphide of Antimony),** Mammoth Mine, Mineral King District, Tulare County, Cal. S. G. George, M. D.

1632. **Sphalerite (Zinc Blende),** White Chief Mine, Mineral King District, Tulare County, California. S. G. George, M. D.

1633. **Sphalerite (Zinc Blende) in Calcite,** White Chief Mine, Mineral King District, Tulare County, California. S. G. George, M. D.

1634. **Silver Ore,** Black Chief Mine, Mineral King District, Tulare County, Cal. S. G. George, M. D.

1635. **Silver Ore,** Chihuahua Mine, Mineral King District, Tulare County, Cal. S. G. George, M. D.

1636. **Silver Ore,** Silver Wealth Mine, Mineral King District, Tulare County, Cal. S. G. George, M. D.

1637. **Silver Ore,** Lady Emma Mine, Mineral King District, Tulare County, Cal. S. G. George, M. D.

1638. **Silver Ore,** Black Wolf Mine, Mineral King District, Tulare County, Cal. S. G. George, M. D.

1639. **Silver Ore,** Lady Franklin Mine, Mineral King District, Tulare County, Cal. S. G. George, M. D.

1640. **Silver Ore,** Empire Mine, Mineral King District, Tulare County, California. S. G. George, M. D.

1641. **Silver Ore,** Great Mogul Mine, Mineral King District, Tulare County, Cal. S. G. George, M. D.

1642. **Stibnite (Sulphuret of Antimony,** See No. 1631), Mineral King District, Tulare County, Cal. G. W. Brown.

1643. **Molybdenite,** Tem Pah-Ute District, Lincoln County, Nevada. J. H. Baker.

1644. **Volcanic Rock,** Kelsey Valley, Lake County, California, taken from a well ten feet deep. It is several feet in thickness. Sinking the well was discontinued owing to the emanation of large quantities of carbonic acid gas. Mrs. H. M. Coffin.

1645. **Pumice Stone or Volcanic Ash,** Found six hundred yards southerly from the easterly part of Lake Merced, San Francisco County, California. Extensively used as pulverized pumice stone. Whittier, Fuller & Co.

1646. **Chalcedonic Quartz with Cavities,** Formerly filled with pyrite crystals, the yellow coating strongly resembles gold and is easily mistaken for it. Lady Washington Mine, Colorado. Mrs. F. E. Smith.

1647. **Azurite, Anglesite, and Bindheimite,** Modoc Mine, Inyo County, California. Dr. W. C. Parker.

1648. **Anglesite and Bindheimite,** Modoc Mine, Inyo County, California. Dr. W. C. Parker.

1649. **Pyrite (Sulphuret of Iron),** Modoc Mine, Inyo County, California. Dr. W. C. Parker.

1650. **Silver Lead Ore,** Said to assay eight hundred dollars per ton, Modoc Mine, Inyo County, California. Dr. W. C. Parker.

1651. **Silver Lead Ore,** Said to assay three hundred and forty-seven dollars per ton, Modoc Mine, Inyo County, California. Dr. W. C. Parker.

1652. **Silver Ore,** Said to assay two thousand three hundred and thirteen dollars per ton, Modoc Mine, Inyo County, California. Dr. W. C. Parker.

1653. **Galena,** Modoc Mine, Inyo County, California Dr. W. C. Parker.

1654. **Steatite,** Fresno County, California.

1655. **Sphalerite (Zinc Blende),** Silver King Mine, Pinal County, Arizona. R. P. Elmore.

1656. **Samples of Copper Ore with Metallic Copper reduced from it,** Mineral Point Lode, thirty miles east of Crescent City, Del Norte County, California. H. O. Hiscox.

1657. **Red Lead** (Artificial), To illustrate the economic uses of lead. Whittier, Fuller & Co.

1658. **Litharge** (Artificial), To illustrate the economic uses of lead. Whittier, Fuller & Co.

1659. **Chrome Yellow (Orange Chromate of Lead),** artificial, to illustrate the economic uses of chromium. Whittier, Fuller & Co.

1660. **Chrome Yellow (Lemon Chromate of Lead),** artificial, to illustrate the economic uses of chromium. Whittier, Fuller & Co.

1661. **Chrome Green** (Artificial), mechanical mixture of chrome yellow and Prussian blue, to illustrate the economic uses of chromium. Whittier, Fuller & Co.

1662. **Venitian Red** (Peroxide of iron, artificial), to illustrate the economic uses of iron. Whittier, Fuller & Co.

1663. **Metallic Paint** (Artificial peroxide of iron), to illustrate the economic uses of iron. Whittier, Fuller & Co.

1664. **California Ingot Lead** (Pure), from which white lead is made, to illustrate the economic uses of lead. Whittier, Fuller & Co.

1665. **White Lead (Carbonate of Lead)**, As taken from the pots, to illustrate the economic uses of lead. Whittier, Fuller & Co.

1666. **White Lead (Carbonate of Lead)**, Artificial, ground and washed, to illustrate the economic uses of lead. Whittier, Fuller & Co.

1667. **Magnetite**, Near Big Red Ravine, two miles from Coloma, El Dorado County, California. George W. Kimble.

1668. **Scolithus linearis**—Hall (Lower silurian fossil), Cincinnati Group. Cincinnati, Ohio.

1669. **Silver Lead Ore**, Nevada Mine, Montezuma District, Nye County, Nevada.

1670. **Silver Lead Ore**, Bullion Mine, Montezuma District, Nye County, Nevada.

1671. **Psilomelain** (in quartz), Santa Ana River, Los Angeles County, California. Mistaken for tin ore.

1672. **Obsidian**, Mistaken for coal, San Pedro River, near line of S. P. R. R. J. R. Scupham.

1673. **Magnetic Sand with Pyrites**, Hydraulic washings, two miles northeast of Jackson, Amador County, California. I. Bluxome.

1674. **Indian Relic,** Found twenty-five feet from surface in a tunnel, Groom District, Lincoln County, Nevada. J. H. Baker.

1675. **Sand,** From hydraulic washings, two miles northeast from Jackson, Amador County, California. I. Bluxome.

1676. **Calcite with Bitumen,** New Almaden Mine, Santa Clara County, California.

1677. **Asbestus,** Near Oroville, Butte County, California. R. J. Perrin, M. D.

1678. **Asbestus,** Eighteen miles northeast of Oroville, Butte County, California. S. S. Sweet.

1679. **Graphite,** Ticonderoga, New York. Foye Bros.

1680. **Tufaceous Limestone (Thinolite ?),** Lassen County, California, section thirty, township thirty north, range fourteen west. F. H. Merrill.

1681. **Sedimentary Rock,** Oil Creek, San Luis Obispo County, California, found in slabs from two to eight inches thick, and from one to three feet wide. W. O. Sleeper.

1682. **Silver Ore,** Betty O'Neal Mine, Lander County, Nevada. Richard Cohen.

1683. **Silver Ore,** Northern Belle Mine, Esmeralda County, Nevada. Very rich in chloride of silver. W. M. Bunker.

1684. **Copper Ore,** Telegraph Mine, Hog Hill, Calaveras County, California. Charles C. Jones.

1685. **Steatite (Soapstone),** Two miles northeast of Jackson, Amador County, California. I. Bluxome.

1686. **Serpentine,** Market Street cut, San Francisco. S. Heydenfeldt.

1687. **Asbestus,** From Canada, used in manufacture of asbestus preparations.

1688. **Asbestus,** Italy.

1689. **Asbestus,** Staten Island, New York.

1690. **Asbestus,** Georgia.

1691. **Asbestus,** Georgia.

1692. **Asbestus Felting,** Manufactured by the W. H. Jones Manufacturing Company of New York. P. Steinhagen.

1693. **Mica Schist,** Alaska.

1694. **Basaltic Lava,** Near Calistoga, Napa County, California.

1695. **Sulphuret Ore,** Summit City, Sierra County, California. T. P. Sleeper.

1696. **Cinnabar in Sandstone,** Napa Consolidated Mine, Oat Hill, Napa County, California. Paris Exposition Collection.

1697. **Lead Ore (Anglesite),** Arizona. W. B. Hellings.

1698. **Murchisonia bellicincta (Silurian Fossil),** Hamilton, Ohio. Henry G. Hanks.

1699. **Ananchytes ovatus (Cretaceous Fossil),** Meudon, France. Henry G. Hanks.

1700. **Janira bella (Tertiary Fossil),** Paleontology of California, Vol. 2, Folio 105, San Bernardino, California. Henry G. Hanks.

1701. **Cardita alticosta (Cretaceous Fossil),** Paleontology of California, Vol. 2, Folio 268, Mexico. Henry G. Hanks.

1702. **Strophomena alternata,** Lower silurian fossil, Hamilton, Ohio. Henry G. Hanks.

1703. **Trigonia hanetiana,** D'Orb, Atacama, Chili. H. G. Hanks.

1704. **Oyster Shells,** Cote Blanche, Louisiana. J. Z. Davis.

1705. **Oyster Shells,** Barnegat Bay, New Jersey. J. Z. Davis.

1706. **"Fanleaf" Oyster Shells,** Cote Blanche Bay, Louisiana. J. Z. Davis.

1707. **Silver Ore,** Morning Star Mine, Pittsburgh District, Lander County, Nevada. Richard Cohen.

1708. **Silver Ore,** Veritas Mine, Old Battle Mountain, Lander County, Nevada. Richard Cohen.

1709. **Magnetite,** Iron Mountain Mine, seven miles from Shasta, California.

1710. **Pyrite, rich in Silver, with Quartz,** Iron Mountain Mine, seven miles from Shasta, California. David Porter.

1711. **Nodules of Pyrite, rich in Silver,** Iron Mountain Mine, seven miles from Shasta, California. David Porter.

1712. **Iron Ore** (Oxide), Average from tunnel, Iron Mountain Mine, seven miles from Shasta, California. David Porter.

1713. **Rock Specimen,** Face of Tunnel, Iron Mountain Mine, seven miles from Shasta, California. David Porter.

1714. **Silver Lead Ore,** Warsaw Mine, two feet thick (?), Oro Blanco District, Pima County, Arizona. J. M. Kirkpatrick.

1715. **Zinkenite,** Idaho. Dr. A. J. Thibodo.

1716. **Limonite after Pyrite,** Cherry Creek District, Yavapai County, Arizona. Dr. A. J. Thibodo.

1717. **Silver Ore,** Thor Mine, San Simeon District, Grant County, New Mexico. J. S. Sherburne.

1718. **Silver Ore,** Thor Mine, San Simeon District, Grant County, New Mexico. J. S. Sherburne.

1719. **Wall Rocks,** Thor Mine, San Simeon District, Grant County, New Mexico. J. S. Sherburne.

1720. **Jasper** (six varieties), Near Saucelito, Marin County, California. J. Z. Davis.

1721. **Gypsum** (Selenite), Near Susanville, Lassen County, California. F. H. Merrill.

1722. **Clay Wall**, Orient Mine, Bodie District, Mono County, California. Hon. Joseph Wasson.

1723. **Green Rock**, Met with before reaching the so called foot wall, new Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1724. **Schistose Serpentine**, Met with before reaching the so called foot wall, New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1725. **Wall Rock**, In or near the foot wall, New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1726. **Wall Rock**, In or near the foot wall, New Almaden Quicksilver Mine, Santa Clara County, California, J. B. Randol.

1727. **Quartz, Cinnabar, and Vein Matter**, New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1728. **Vein Matter and Crystallized Cinnabar**, New Almaden Mine, Santa Clara County, California. J. B. Randol.

1729. **Cinnabar, Native Mercury, and Vein Stone**, New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1730. **Dark Variety of Cinnabar**, New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1731. **Light or Vermilion Variety of Cinnabar**, New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1732. **Cinnabar, Bitumen, and Calcite**, New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1733. **Cinnabar, Vein Stone, and Alta,** Showing the junction of the Alta and Vein—the alta being the country rock of the hanging wall—New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1734. **Black Alta** (Argillaceous Schist), New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1735. **Roasted Ore,** New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1736. **Adobe,** Ready for the furnace, New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1737. **Adobe,** Roasted, New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1738. **Soot,** From condensers, New Almaden Quicksilver Mine, Santa Clara County, Cal. J. B. Randol.

1739. **Quicksilver,** New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1740. **Bitumen,** New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1741. **Calcite,** New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

1742. **Diatomaceous Earth,** Fourteen miles below San Pedro, Los Angeles County, California. S. Heydenfeldt, Jr.

1743. **Galena, Coated with Siderite and Chalcedony,** Colorado. Wm. H. Lent.

1744. **Enargite,** Alpine County, Cal. Henry G. Hanks.

1745. **Silver Ore,** Richmond Consolidated Mine, Comstock Lode, Virginia, Nevada. Paris Exposition Collection.

1746. **Silicified Wood,** Black Rock, Nevada. L. A. Moore.

1747. **Galena and Fluor Spar,** Arkansas Mine, Castle Dome District, Yuma County, Arizona.

1748. **Silver Sandstone,** Leeds Mine, Washington County, Utah. Paris Exposition Collection.

1749. **Country Rock,** Mineral King District, Tulare County, California. S. G. George, M. D.

1750. **Cap Rock,** Overlying the depression between Bodie Bluffs and Silver Hill, Bodie District, Mono County, California. Five hundred feet thick on Silver Hill. Hon. Joseph Wasson.

1751. **Native Copper and Azurite,** Telegraph Mine, Hog Hill, Calaveras County, Cal. C. C. Jones.

1752. **Galena and Pyrite,** White & Shiloah Mine, Lander County, Nevada.

1753. **Wall Rock,** Yellow Jacket Mine, Comstock Lode, Virginia, Nevada, three thousand-foot level. M. Attwood.

1754. **Ingot of Antimony,** From California ores.

1755. **Spondylus americanus,** China. J. Z. Davis.

1756. **Hippocampus abdominalis,** New Zealand. J. Z. Davis.

1757. **Old Dutch Tiles,** Taken from the house in which Governor William Franklin lived. Burlington, New Jersey. J. Z Davis.

1758. **Auris midæ,** Philippine Islands. J. Z. Davis.

1759. **Carnelian Ring,** Taken from the finger of the mummy of a young girl found in the caves of Samoun or Crocodile caves of Upper Egypt. The face, hands, and feet of this mummy were gilded.

1760. **Indian Arrow-head of Obsidian,** Mendocino County, California. James W. Everett.

1761. **Magnetite** (See No. 19), Potter's Iron Mine, Shasta County, California. Occurs in large quantities at a locality about two miles southeast of the U. S. Salmon Fishery on the McCloud River, joining an immense limestone formation which crops out one thousand feet high, and extends along the river for four miles. There is an abundance of wood suitable for charcoal and unlimited water power. J. G. Woodbury.

ANALYSIS.

Silica	00.49
Ferrous oxide	19.59
Ferric oxide	79.90
	99.98

Contains 71.16 per cent. iron.

1762. **Pumice Stone**, Near Mammoth City, Mono County, California. S. D. Brastow.

1763. **Indian Cooking Vessel**, Plowed up on section thirteen, township twenty-six south, range nine east, San Luis Obispo County, California. This vessel is carved from a single block of Soapstone or Steatite. Ezra Carpenter.

1764. **Indian Mortar**, San Luis Obispo County, California. Ezra Carpenter.

1765. **Indian Pestle**, San Luis Obispo County, California. Ezra Carpenter.

1766. **Indian Implement** (?), San Luis Obispo County, California. Ezra Carpenter.

1767. **Modern Stone Implement**, Fiji Islands.

1768. **Bow and Arrows**, Made and used by the Yuma Indians of California. J. Z. Davis.

1769. **Lignite**, Alaska. Joshua Hendy.

1770. **Cuprite, Malachite, and Native Copper**, Near Lincoln, Placer County, Cal. J. A. Filcher.

1771. **Copper Ore** (Chalcopyrite in Quartz), Nickerson Mine, Nevada County, Cal. J. A. Filcher.

1772. **Silicified Wood**, Dutch Flat, Placer County, Cal. J. A. Filcher.

1773. **Ferruginous Clay (?),** Clipper Gap, Placer County, California. J. A. Filcher.

1774. **Cast of Post Pliocene Skull of the Neanderthal Man,** Original found in the year 1857, in a cave in that portion of the Valley of Dussel, Prussia, called the Neanderthal. For a full description of this very interesting relic see Lyell's "Antiquity of Man," page 80, and other works on geology.

1775. **Ideal Restoration of the Neanderthal Man.**

1776. **Cast of a Mound Builder's Pipe,** Original found at Troy, Ohio.

1777. **Cast of a Badge of Authority,** Used by the ancient mound builders, original found in Butler County, Ohio. For interesting information on this subject see "Centennial Report of Ohio," page 122.

1778. **Cast of Lower Silurian Fossil,** Asaphus megistos (Isotelus megistos)—Locke, Trenton Period, Hudson River or Cincinnati Epoch. Original found at Morning Sun, Ohio.

1779. **Cast of Lower Silurian Fossil,** Asaphus gigas (Isotelus gigas)—De Kay, Trenton Period, Hudson River or Cincinnati Epoch. Original found at Reading, Ohio.

1780. **Cast of Upper Silurian Fossil,** Lichas boltoni (Paradoxides boltoni)—Bigsby, Niagara Period and Epoch. Original found at Lockport, New York.

1781. **Cast of Lower Silurial Fossil,** Ceraurus icarus—Billings, Trenton Period, Hudson River or Cincinnati Epoch. Original found at Richmond, Indiana.

1782. **Cast of Lower Silurian Fossil,** Trochoceras richmondensis, Trenton Period, Hudson River or Cincinnati Epoch. Original found at Richmond, Indiana.

1783. **Cast of Lower Silurian Fossil,** Conularia richmondensis, Trenton Period, Hudson River or Cincinnati Epoch. Original found at Richmond, Indiana.

1784. **Cast of Upper Silurian Fossil,** Calymene blumenbachii, Brong. Original found in England.

1785. **Cast of Lower Cretaceous Fossil,** Ammonites martini, D'Orb. Original found in England.

1786. **Cast of Jurassic Fossil,** Ammonites bisulcatus, Lower Lias. Original found in Wurtemburg, Germany.

1787. **Cast of Devonian Fossil,** Gyrocerus cyclops—Hall, Carboniferous Period. Original found at Marion, Ohio.

1788. **Mechanic Analysis of No. 1675:**

Portion A, coarse non-magnetic	56.6
Portion B, fine non-magnetie	18.4
Portion C, magnetic	25.0
	100.0

A—Contains garnets, sulphides of iron, various dark colored grains, and a straited mineral which, under the microscope, resembles Selenite.

B—Is principally quartz sand. There are some amorphous particles of a red color, and the mineral resembling Selenite. There are no Zircons.

C—Is almost entirely Magnetite.

1789. **Porphyritic Diorite,** Clipper Gap, Placer County, California. J. A. Filcher.

1790. **Micaceous Hematite,** Near White Plains, Churchill County, Nevada, said to occur in large quantities. W. Schmidt.

1791. **Gold in Chalcedony,** California (?) A. B. Paul.

1792. **Quartz Crystals on Silver Ore,** From the incline of the Bodie Mine below the four hundred and thirty-three-foot level, Bodie, Mono County, California. Hon. Joseph Wasson.

1793. **Silver Ore,** Jupiter Mine, Bodie, Mono County, California, six hundred-foot level, north of the locality of No. 1792. Hon. Joseph Wasson.

1794. **Sulphurets,** From the Banghart Gold Mine, Shasta County, California. A. Myers.

1795. **Andalusite Crystals,** Near the Ne Plus Ultra Mine, Fresno County, California.

1796. **Calcite and Barite Stained with Iron,** Pioneer Claim, Empire Mining District, forty-five miles south of Tucson and eight miles from the line of the railroad, Arizona. George W. Grayson.

1797. **Red Granite,** Wyoming Territory, nearest town, Fort Laramie. J. Z. Davis.

1798. **Tooth of Elephas Primigenius,** Quarternary Age, Oregon. Two specimens. E. F. Lorquin.

1799. **Indian Mortar,** Oregon. E. F. Lorquin.

1800. **Sample of Coal,** Thirty-inch vein, Cienega Del Gabian Rancho, San Benito County, near the line of Monterey County. Charles T. Healey.

APPROXIMATE ANALYSIS.

Water	18.40
Volatile combustible matter	31.15
Fixed carbon	30.00
Ash	20.45
	100.00

1801. **Cuprite, Malachite, Calcite, Native Copper, and Limonite,** Victoria Mine, Kingsley Mining District, near the line of Utah, Elko County, Nevada. A. J. Thibodo.

1802. **Carnelian,** A variety of quartz. Mrs. Jas. Jacques.

1803. **Azurite,** New York District, San Bernardino County, California. Hugh McCormick.

1804. **Silver Ore,** Ahuaga Mine, summit of Sierra Nevada Mountains, one and one half miles northwest of Mount Dana. E. E. Haft.

1805. **Stone Hammer,** San Luis Obispo County, California. Ezra Carpenter.

1806. **Ulexite** (Borate of Lime), Borax Lake, near Grapevine Canyon, Kern County, California. Hugh McCormick.

1807. **Carbonate of Soda** (Trona), Sink of the Mojave, Death Valley, Inyo County, California. Hugh McCormick.

1808. **Silver Ore,** Principally Sphalerite or Zinc Blende, Perral District, Chihuahua, Mexico.

1809. **Freestone,** From the promontory upon which the City of Sydney, New South Wales, is built. Charles D. Gibbes.

1810. **Selenite** (Gypsum), Siberia. Mr. Attosen.

1811. **Pyrophyllite,** El Dorado County, California.

1812. **Calcite,** Red Cloud Mine, Silver District, Yuma County, Arizona. J. Downes Wilson.

1813. **Humboldt or Pah-Ute Sugar,** Scraped by the Indians in large quantities from a species of cane growing on the shores of the Sink of the Humboldt, Nevada. John S. Hittell.

1814. **Wulfenite (Molybdate of Lead), with Vanadinite,** Red Cloud Mine, Silver District, Yuma County, Arizona. J. Downes Wilson.

1815. **Wulfenite with Galena,** Red Cloud Mine, Silver District, Yuma County, Arizona. J. D. Wilson.

1816. **Silver Lead Ore,** Red Cloud Mine, Silver District, Yuma County, Arizona. J. Downes Wilson.

1817. **Crude Material,** From the borax deposits, San Bernardino County, California.

1818. **Clay Stones,** Connecticut River. J. Z. Davis.

1819. **Pectolite,** Bergen Hill, New Jersey. J. Z. Davis.

1820. **Epidote,** Thor Mine, San Simeon District, Grant County, New Mexico. J. S. Sherburne.

1821. **Mica Schist,** Philadelphia, Penn. J. Z. Davis.

1822. **Calcite on Quartz,** Locality unknown, said to be California.

1823. **Indurated Clay,** Corner of Filbert and Leavenworth streets, San Francisco.

ANALYSIS.

Silica	56.51
Alumina	21.33
Sesqui oxide of iron	12.31
Lime	3.53
Water	6.30
Magnesia	Trace.
	99.98

1824. **Gypsum,** Occurs with lead ores, Red Cloud Mine, Silver District, Yuma County, Arizona. J. D. Wilson.

1825. **Cerussite Crystals** (Carbonate of Lead), Red Cloud Mine, Silver District, Yuma County, Arizona. J. Downes Wilson.

1826. **Galena,** Red Cloud Mine, Silver District, Yuma County, Arizona. J. Downes Wilson.

1827. **Roscoelite,** Granite Hill, El Dorado County, California. [Roscoelite is a vanadium mineral, one of the rarest known, and is always rich in gold.] G. W. Kimble.

1828. **Rock Formation,** Sam. Simms Mine, in which Roscoelite was first discovered, Granite Creek, El Dorado County, California. George W. Kimble.

1829. **Rock Formation,** Sam. Simms Mine, in which Roscoelite was first found. [When the thin quartz veins cross this formation gold is no longer found.] Granite Creek, El Dorado County, California.

1830. **Rock Formation,** In which Roscoelite is found, near Mr. Kimble's house, El Dorado County, California. George W. Kimble.

1831. **Clay,** Dutch Creek, twenty miles northeast of Placerville, El Dorado County, Cal. Wm. F. Flick.

1832. **Diatomaceous Earth,** Eighteen miles southeast of Santa Rosa, Sonoma County, California. Lies between strata of Aragonite and Gray Sandstone (?) Alfred W. Dana.

1833. **Gold Quartz,** Mt. Auburn Mine, same vein as the Providence Mine, one hundred and seventy-five-foot drift, vein six feet wide, near Nevada City, Nevada County, California. C. A. James.

1834. **Sample of Asbestus Paint.** P. Steinhagen.

1835. **Four Samples of Asbestus Fiber,** Used in manufacture. P. Steinhagen.

1836. **Sample of Asbestus Lamp Wick.** P. Steinhagen.

1837. **Sample of Asbestus Cloth.** P. Steinhagen.

1838. **Sample of Asbestus Board.** P. Steinhagen.

1839. **Seven Samples of Asbestus Steam Packing.** P. Steinhagen.

1840. **Cone of Pinus lambertina,** Road to Yosemite, Mariposa County, California. J. Z. Davis.

1841. **Sample of Asbestus Roofing.** P. Steinhagen.

1842. **Asbestus.** (See Nos. 1677 and 1678.) Near Oroville, Butte County, California. M. Y. Blair.

1843. **Quartz with Free Gold,** Klamath Mine, Siskiyou County, California. John Daggett.

1844. **Gold Quartz,** Hite Mine, Mariposa County, Cal. E. W. Pailhet.

1845. **Auriferous Quartz,** Jenny Lind, Calaveras County, California. E. Chilaud.

1846. **Wall Rock of Quartz Vein** (No. 1845), Jenny Lind, Calaveras County, Cal. E. Chilaud.

1847. **Selenite** (Satin Spar), White River, Tulare County, California.

1848. **Silver Ore** (Silver Sandstone), Stormont Mine, Leeds District, Washington County, Utah. [This specimen was on exhibition in the California collections at the Paris Exposition of 1878.] S. D. Brastow.

1849. **Quartz** (Brazilian Pebble), Brazil. E. W. Pailhet.

1850. **Native Silver with Chalcopyrite and Sphalerite** (Zinc Blende), Silver King Mine, Pinal County, Arizona. E. W. Pailhet.

1851. **Clay Image,** Memphis, Egypt. E. W. Pailhet.

1852. **Cannel Coal,** Near London, England. J. Z. Davis.

1853. **Nut of the Phytelphas macrocarpa or Vegetable Ivory,** A species of palm which grows in the valleys of the Andes, South America. J. Z. Davis.

1854. **Granite,** Of which the Capitol at Albany, New York, is built. J. Z. Davis.

1855. **Silicified Wood,** Near Roseville, Placer County, California.. J. Z. Davis.

1856. **Silicified Wood,** Near Calistoga, Napa County, California. J. Z. Davis.

1857. **Orbicular Diorite** (Napoleonite), Island of Corsica, France, the only European locality. H. G. Hanks.

1858. **Orbicular Diorite** (Napoleonite), Near Rattlesnake Bar, El Dorado County, Cal. Frank Rodrick.

1859. **Orbicular Diorite** (Napoleonite), Rattlesnake Bar, El Dorado County, California. John A. Muir.

1860. **Hematite,** Clipper Gap Iron Mine, Section twenty-four, township thirteen north, range eight east, Mount Diablo meridian, Placer County, California. California Iron Company.

1861. **Hematite** (Ochrous), Clipper Gap Iron Mine, section twenty-four, township thirteen north, range eight east, Mount Diablo meridian, Placer County, California. California Iron Company.

1862. **Calcite,** Clipper Gap Lime Quarry, section thirty, township thirteen north, range nine east, Mount Diablo meridian, Placer County, California.

1863. **Limestone** (Marble), Clipper Gap Lime Quarry, section thirty, township thirteen north, range nine east, Mount Diablo meridian, Placer County, Cal.

1864. **Steatite** (Soapstone), Stockbridge Soapstone Works, township fifteen north, range nine east, Mount Diablo meridian, near Colfax, Placer County, Cal.

1865. **Gold Quartz,** Alabama Mine, near Penryn, Placer County, Cal. P. C. DuBois, Superintendent.

1866. **Limestone** (Marble), Cave Valley, near Auburn, Placer County, California. Davis & Cowell.

1867. **Granite,** Rocklin, Placer County, California.

1868. **Slag,** From Lime Quarry at Alabaster Cave, Placer County, California.

1869. **Silver Ore,** Amy Bond Mine, Tem Pah-Ute District, Lincoln County, Nevada. J. H. Baker.

1870. **Obsidian,** Desert Springs, Tem Pah-Ute District, Lincoln County, Nevada. J. H. Baker.

1871. **Porphyry with Free Gold and Chloride of Silver,** Head Center Mine, Tombstone, Pima County, Arizona.

1872. **Aragonite,** Soda Springs Hotel, Siskiyou County, California. Deposited by a spring near the Falls and near the Sacramento River. J. Behrens.

1873. **Magnetite,** Iron Mountain, Shasta County, California. William E. Hale.

1874. **Quartz with Free Gold,** Gold Hill, near Coloma, El Dorado County, California. William F. Flick.

1875. **Red Lava,** Butte Mountain, near Jackson, Amador County, California. M. Jacobi.

1876. **Chromic Iron,** Near Jackson, Amador County, California. Isaac Bluxome.

1877. **Galena,** Fine grained, Groom District, Lincoln County, Nevada. J. H. Baker.

1878. **Gold Bearing Sulphurets,** Doss Mine, two miles from Hornitos, Mariposa County, California. T. J. McWorthy.

1879. **Silver Ore,** Betty O'Neal Mine, Lander County, Nevada. A. Bateman.

1880. **Galena in Quartz,** Sun-rising Mine, near Aqueduct City, Amador County, Cal. H. B. Maize.

1881. **Gold Bearing Sulphurets in Quartz,** Corbet's Creek Mine, Mariposa County, California. D. Gourguet.

1882. **Granite,** Crystal Lake, Summit Valley, Nevada County, California. J. Z. Davis.

1883. **Rock Specimen,** Four miles south of Crystal Lake, Nevada County, California. J. Z. Davis.

1884. **Granite** (Micaceous), Near Penryn, Placer County, California. J. Z. Davis.

1885. **Rich Silver Ore,** Iron Mountain, Shasta County, California, section thirty-four, township thirty-three, range six west, Mount Diablo meridian. The silver is found in small nodules of sulphuret of iron. The locality and mode of occurrence have not yet been studied.

1886. **Aragonite,** From a deposit in the bed of a stream near Aurora, Esmeralda County, Nevada. M. Attwood.

1887. **Copper Ore** (Erubescite and Chalcopyrite), Texada Island, British Columbia. A. S. Raymond.

1888. **Claw of Lobster,** Egg Harbor, New Jersey. J. Z. Davis.

1889. **Copper Ore with Free Silver** (two specimens), Cedar Mine, Nevada County. [The smaller specimen is remarkable.] S. F. Ambler.

1890. **Obsidian,** Sonoma County, California. G. McNair.

1891. **Sphalerite** (Zinc Blende), Mineral King, Tulare County, California.

1892. **Platiniridium,** Enright Claim, three miles above Trinity Center, Trinity County, California. D. T. Hughes.

1893. **Telluric Gold** (?) Near Jackson, Amador County, California. W. A. Skidmore.

1894. **Rock bored by Mollusca,** Monterey County, California. J. Z. Davis.

1895. **Graphite,** Guerneville, Sonoma County, California.

1896. **Hematite,** Occurs in the rock formation, Kelsey Tunnel, fourteen miles southeast of Crescent City, Del Norte County, California. W. H. Fauntleroy.

1897. **Dendrites** (Oxide of Manganese), Eastern Nevada. H. J. Thornton.

1898. **Aragonite,** Nevada. H. M. Levy.

1899. **Fossil Leaf,** Near Jackson, Amador County, California. Isaac Bluxome.

1900. **Aragonite,** Day Silver Mine, Lincoln County, Nevada.

1901. **Ore Containing Nickel** (?) Metallic Mine, near Cisco, Placer County, California. A. S. Jones.

1902. **Ore Containing Nickel** (?) Chief Mine, near Cisco, Placer County, California. A. S. Jones.

1903. **Pebbles,** From the shores of Mono Lake, Mono County, California. Melville Attwood.

1904. **Magnetite,** Althouse Creek, Josephine County, Oregon, four miles north of the California line. Mackey & Fenton.

1905. **Silver Ore,** Northern King Mine, Pioneer District, Pinal County, Arizona. A. J. Holmes.

1906. **Chromic Iron,** Seven miles east of Folsom, Sacramento County, California. J. Z. Davis.

1907. **Rock Specimens** (Two, with Pyrites), Tunnel of the Contra Costa Road and Tunnel Company, one hundred and eighty-five feet from the face. J. H. Hobart.

1908. **Gold Quartz,** Basin Slope Mine, Tuolumne County, California. Wm. A. Lewis.

1909. **Wall Rock,** Ophir Mine, Comstock, Storey County, Nevada, one thousand nine hundred-foot level. Melville Attwood.

1910. **Limestone** (Hydraulic ?), Found at the residence of Captain J. M. McDonald, San Francisco.

1911. **Cone,** From the Cedars of Lebanon, Syria. A. S. Church.

1912. **Rock Formation,** In which the tombs are excavated. Tomb of Queens, Thebes, Upper Egypt. A. S. Church.

1913. **Fragment,** From the head of the Sphynx, Egypt. A. S. Church.

1914. **Rock Specimen,** From Island of Philae, Nile, Egypt. A. S. Church.

1915. **Cloth,** Taken from a mummy in the Tomb of Kings, Thebes, Upper Egypt. A. S. Church.

1916. **Aragonite,** From the Temple of Karnak, Upper Egypt. A. S. Church.

1917. **Fragment of Syenite,** From the fallen sitting statue of Remeses the Great, Temple of Memnonium at Thebes, Upper Egypt. [The block from which this collossal statue was sculptured weighed eight hundred and eighty-seven tons, and was transported from the quarries by the ancient Egyptians.] A. S.Ch urch.

1918. **Jasper,** From the hill over the Tomb of the Kings, Thebes, Upper Egypt. A. S. Church.

1919. **Fragment from the Wall of a Chamber,** In the tomb of King Osirei, Upper Egypt, showing the painted surface in black and white. A. S. Church.

1920. **Fragment of Syenite,** From the square columns in the Temple of Karnak, Thebes, Upper Egypt. A. S. Church.

1921. **Rock Specimens,** First cataract of the Nile, Egypt. A. S. Church.

1922. **Fragment from an Unfinished Obelisk,** In the quarries at Asouan, Upper Egypt. A. S. Church.

1923. **Red Calcite,** Luxor, Upper Egypt. A. S. Church.

1924. **Nummulitic Limestone,** From the top of the great pyramid of Cheops, Egypt. A. S. Church.

1925. **Fragment from an Unfinished Obelisk,** In a quarry at Asouan, Upper Egypt. A. S. Church. [The Obelisk is nearly one hundred feet long and twelve feet square at the base.]

1926. **Sample of White Marble,** Carrara, Italy. A. S. Church.

1927. **Models of Fruit in Marble,** Apple and Lemon, Carrara, Italy. A. S. Church.

1928. **Model of a Walnut in Marble,** Carrara, Italy. A. S. Church.

1929. **Model of a Potatoe in Marble,** Carrara, Italy. A. S. Church.

1930. **Quartz Crystals,** Found imbedded in marble, Carrara, Italy. A. S. Church. [These crystals sometimes cause great annoyance and loss to the sculptor and artisan.]

1931. **Mosaic,** From pavement in front room of the Temple of Venus, Pompeii, Italy. A. S. Church.

1932. **Iron,** From window grating, Pompeii, Italy. A. S. Church.

1933. **Lead,** From a kettle set in masonry in a wash-house in Pompeii, Italy. A. S. Church.

1934. **Bark and Branch,** From an old Olive tree, in the Garden of Gethsemane, Jerusalem. A. S. Church.

1935. **Pebbles and Shells,** From the shore of the Mediterranean at Joppa, Syria. A. S. Church.

1936. **Water,** From a salt spring, section fifteen, township thirteen north, range eight east, Mount Diablo meridian, Placer County, California. California Iron Company. Contains 665.5 grains of salt per imperial gallon.

1937. **Hematite,** From Red Hill, section fifteen, township thirteen north, range eight east, Mount Diablo meridian, Placer County, California. California Iron Company.

ANALYSIS.

Silica		33.10
Water	Hygroscopic	2.90
	Combined	6.45
Sesquioxide of Iron		55.25
Lime		1.65
Sulphur		Trace.
Phosphorus		Trace.
		99.35

This ore contains 38.68 per cent. of iron.

1938. **Magnetite,** Section fifteen, township thirteen north, range eight east, Mount Diablo meridian, Placer County, California. California Iron Company.

ANALYSIS.

Silica	3.23
Sesquioxide of Iron	80.05
Protoxide of Iron	17.06
	100.34

This ore contains 69.29 per cent. of iron.

1939. **White Marble,** Section fifteen, township thirteen north, range eight east, Mount Diablo meridian, Placer County, California. California Iron Company. [This marble has been used in San Francisco for the generation of carbonic acid in the manufacture of mineral waters.]

ANALYSIS.

Silica	.15
Sesquioxide of Iron	.35
Lime	55.72
Carbonic Acid	43.78
	100.00

1940. **Diorite (?),** Wall rock of the Clipper Gap Iron Mine, Placer County, California. California Iron Company.

1941. **Diorite** (?), Near the bridge, section fifteen, township eighteen north, range thirteen east, Mount Diablo meridian, Placer County. California Iron Company.

1942. **Rock Specimen,** Township thirteen north, range eight east, Mount Diablo meridian, Placer County, California.

1943. **Diorite** (?), Township thirteen north, range eight east, Mount Diablo meridian, Placer County, California.

1944. **Clay,** Near Lincoln, Placer County, California; called by the Potters, Blue Plastic Clay.

ANALYSIS.

Silica	44.82
Alumina	34.54
Combined water	8.37
Hygroscopic water	1.27
Carbonate of lime	3.00
Magnesia	.96
Soda	4.74
Sesquioxide of iron	1.86
Loss	.44
	100.00

1945. **Clay,** Near Lincoln, Placer County, California; called by the Potters, White Non-plastic Clay.

ANALYSIS.

Silica	41.80
Alumina	38.78
Combined water	6.00
Hygroscopic water	1.62
Carbonate of lime	2.64
Magnesia	1.02
Soda	3.46
Sesquioxide of iron	2.12
Loss	2.56
	100.00

1946. **Crystallized Orpiment, Realgar, Arsenic, Oxide of Lead, etc.,** From the roasting heaps of the Castle Dome Mining and Smelting Company, Melrose Smelting Works, Alameda County, California. W. P. Blake.

1947. **Fossil Oysters,** Santa Margarita Ranch, San Luis Obispo County, California. Ezra Carpenter.

1948. **Fossil Bones, Whale** (?), Section twenty-four, township twenty-six south, range nine east, San Luis Obispo County, California. Ezra Carpenter.

1949. **Calcareous Tufa,** Mahoney Mine, San Luis Obispo County, California. Ezra Carpenter.

1950. **Coal,** West Hartley. C. C. Fowler.

1951. **Coal,** Coose Bay, Oregon. C. C. Fowler.

1952. **Coal,** Wallsend, Sydney, New South Wales. C. C. Fowler.

1953. **Coal,** Carbon River, Washington Territory. C. C. Fowler.

1954. **Coal,** Seattle, Washington Territory. C. C. Fowler.

1955. **Coal,** Scotch. C. C. Fowler.

1956. **Coal,** Nanaimo, British Columbia. C. C. Fowler.

1957. **Coal,** Scotch Splint. C. C. Fowler.

1958. **Coal,** Wellington, Departure Bay, British Columbia. C. C. Fowler.

1959. **Coal,** Black Diamond, Mount Diablo, Contra Costa County, California. C. C. Fowler.

1960. **Concentrations from Hydraulic Mines,** Shady Glen, near Alta, Placer County, California. A. Larson.

1961. **Rock Specimen,** San Francisco. H. G. Hanks.

1962. **Rock Specimen,** Ocean Beach, ten miles south of San Francisco. Henry G. Hanks.

1963. **Rock Specimen,** Road from Oakland to Berkeley, Contra Costa County, California.

1964. **Rock Specimen,** Calistoga, Napa County, Cal.

1965. **Rock Specimen,** Mark West, near Santa Rosa, Sonoma County, California.

1966. **Rock Specimen,** Mark West, near Santa Rosa, Sonoma County, California.

1967. **Rock Specimen,** Mark West, near Santa Rosa, Sonoma County, California.

1968. **Rock Specimen,** Fifteen miles from Monterey, Monterey County, California.

1969. **Rock Specimen,** Fifteen miles from Monterey, Monterey County, California.

1970. **Rock Specimen,** Butte Creek, California.

1971. **Rock Specimen,** Pine Flat, Sonoma County, Cal.

1972. **Rock Specimen,** Lower Lake, Lake County, Cal.

1973. **Rock Specimen,** Lower Lake, Lake County, Cal.

1974. **Rock Specimen,** McCloud River, Shasta County, California.

1975. **Rock Specimen,** McCloud River, Shasta County, California.

1976. **Rock Specimen,** McCloud River, Shasta County, California.

1977. **Rock Specimen,** McCloud River, Shasta County, California.

1978. **Rock Specimen,** Florence, Pinal County, Arizona.

1979. **Rock Specimen,** (Chalcedonic), Florence, Pinal County, Arizona.

1980. **Rock Specimen,** Shasta County, California.

1981. **Limestone** (Fossiliferous), Almaden Consolidated Quicksilver Mining Company, southwest quarter section thirty-four, township twenty-six south, range ten east, San Luis Obispo County, California. Elevation fifteen hundred feet.

1982. **Limestone,** Bridgeport, Mono County, California.

1983. **Limestone,** Tres Pinos, San Benito County, California, fifteen miles east of the town.

1984. **Rock Specimen** (Jaspery), Monitor, Alpine County, California.

1985. **Rock Specimen,** Wall rock, Bonanza Queen Mine, Fresno County, California.

1986. **Rock Specimen,** Kearsarge District, Inyo County, California.

1987. **Rock Specimen,** Kearsarge District, Inyo County, California.

1988. **Rock Specimen,** Kearsarge District, Inyo County, California.

1989. **Rock Specimen,** Kearsarge District, Inyo County, California.

1990. **Rock Specimen,** Kearsarge District, Inyo County, California.

1991. **Rock Specimen,** Kearsarge District, Inyo County, California.

1992. **Rock Specimen,** Kearsarge District, Inyo County, California.

1993. **Rock Specimen,** Kearsarge District, Inyo County, California.

1994. **Rock Specimen,** Kearsarge District, Inyo County, California.

1995. **Rock Specimen,** Kearsarge District, Inyo County, California.

1996. **Magnetite,** Coulterville, Mariposa County, California. J. S. Shilling.

ANALYSIS.

Silica	15.50
Sesquioxide of iron	77.78
Protoxide of iron	7.39
Sulphur	Trace.
	100.67

1997. **Coal Fossil** (Sigillaria), St. Etienne, France.

1998. **Cone of Pinus sabiniana,** Ridge dividing Monterey and Santa Cruz Counties, California. J. Z. Davis.

1999. **Cone of Pinus coulteri,** Monterey County, California. J. Z. Davis.

2000. **Cone of Pinus insignes,** Grove at Hotel del Monte, Monterey, California. J. Z. Davis.

2001. **Ligament of Spinal Column of a Whale,** Monterey Bay, Monterey County, California. J. Z. Davis.

2002. **Calcite** (Stalagmite), Quarry of Davis & Cowell, Santa Cruz County, California. J. Z. Davis.

2003. **Calcite** (White), Quarry of Davis & Cowell, Santa Cruz County, California. J. Z. Davis.

2004. **Calcite** (Blue Crystalline), Quarry of Davis & Cowell, Santa Cruz County, California. J. Z. Davis.

2005. **Calcite** (Marble), Quarry of Davis & Cowell, Santa Cruz County, California. J. Z. Davis.

2006. **Aragonite** (Onyx Marble), Southeast quarter section nine, township thirty-two south, range fifteen east, Mount Diablo meridian, San Luis Obispo County, California. Ezra Carpenter.

2007. **Silver Ore,** Ahuaga Mine, Tioga District, Summit of Sierra Nevada Mountains, one mile and a half from Mount Dana, Mono County, California. (See No. 1804.) W. J. Bevan.

2008. **Silver Lead Ore,** French Flag Mine, Swansea District, Inyo County, California. J. Galbergue.

2009. **Silver Ore,** Addenda Mine five hundred-foot level, Bodie, Mono County, California. John Dixon.

2010. **Gold Quartz,** Miller Mine, Washington, Nevada County, California.

2011. **White Marble,** Tehachapi, Kern County, Cal. C. R. Merrill.

2012. **Kauri Gum in its Natural State,** New Zealand. Miss E. P. Gibbons.

2013. **Kauri Gum Polished,** New Zealand. Miss E. P. Gibbons.

2014. **Kauri Gum Including Insect,** New Zealand. Miss E. P. Gibbons.

2015. **Silver Ore,** Way Up Mine, Huachuca Mountains, thirty miles southwest from Tombstone, Pima County, Arizona. Gerold & Weidenhoefer.

2016. **Silver Ore** (Croppings), Sterling Mine, Tombstone District, Pima County, Arizona. Gerold & Weidenhoefer.

2017. **Silver Ore,** Trojan Mine, near Tombstone, Pima County, Arizona. The following memorandum is sent with the specimen: Ledge five to six feet wide; pay streak two to three feet wide; shaft sixty feet deep; average assay two hundred and five dollars. Gerold & Weidenhoefer.

2018. **Silver Ore,** Verde Mine, near Tombstone, Pima County, Arizona. Memorandum sent with the specimen: Ledge five to six feet; pay streak two to three feet; two shafts forty and forty-five feet; average assay one hundred and forty-eight dollars. Gerold & Weidenhoefer.

2019. **Silver Ore,** Silver Flame Mine, Tombstone District, Pima County, Arizona. Gerold & Weidenhoefer.

2020. **Silver Ore,** Dwarf Mine, Tombstone District, Pima County, Arizona. Gerold & Weidenhoefer.

2021. **Silver Lead Ore,** Huachuca Mountains, Pima County, Arizona. Gerold & Weidenhoefer.

2022. **Ulexite** (Borate of Lime), Peru. Wm. L. Oliver.

2023. **Ulexite** (Borate of Lime), Chile. Wm. L. Oliver.

2024. **Cerargyrite** (Chloride of Silver), Leeds, Washington County, Utah. James R. Finlayson.

2025. **Gold Quartz,** New Toledo Mine, section thirty-one, township two north, range fourteen east, Tuolumne County, California. Alfred Wright.

2026. **Gold Quartz,** Prospect Mine, section thirty-one, township two north, range fourteen east, near Rawhide Ranch, Tuolumne County, California. Alfred Wright.

2027. **Pyrite Crystal,** Patterson Mine, Tuttletown, Tuolumne County, California. Alfred Wright.

2028. **Wall Rocks,** New Toledo Mine (See No. 2025), Tuolumne County, California. Alfred Wright.

2029. **Gold Quartz,** Dahlonega Mine, section twelve, township sixteen north, range eleven east, Placer County, California. Hoagland, Osborn & Co.

2030. **Pyrites** (Pyrite), Battle Mountain, Lander County, Nevada.

2031. **Mica Crystal,** Paris, Maine. Henry G. Hanks.

2032. **Auriferous Pyrites,** El Dorado County, California. Contains 21.4 ounces of gold to the ton. Henry G. Hanks.

2033. **Auriferous Pyrites** (?), Golden Fleece Mine, Peavine District, Washoe County, Nevada.

2034. **Pyrites,** Containing gold and silver, Amador County, California.

Gold per ton	$ 51 00
Silver	222 00
Total	$273 00

2035. **Cement Rock,** Washington Corners, Alameda County, California. C. R. Merrill.

ANALYSIS.

Silica	.05
Sesquioxide of Iron	.16
Carbonate of Magnesia	.65
Carbonate of Lime	99.14
	100.00

2036. **Arquerite** (Silver Amalgam), Vitalle Creek, British Columbia, latitude 53° north.

ANALYSIS.

Mercury	11.90
Silver	86.15
Silica	.45
Total	98.50

2037. **Native Copper,** Vitalle Creek, British Columbia, found with No. 2036. R. R. Clark.

2038. **Silver Ore,** Mount Dana Mine, two miles north of Bloody Canyon, Tuolumne County, California. O. Fuller.

2039. **Trona, Thenardite and Salt,** Teel's Marsh, Esmeralda County, Nevada. F. M. Smith.

2040. **Thenardite, Anhydrous Sulphate of Soda,** Teel's Marsh, Esmeralda County, Nevada. F. M. Smith.

2041. **Quartz** (Chalcedony), Near Libertad, Sonora, Mexico. G. P. Kelly.

2042. **Diorite** (?), Iron Mines near Clipper Gap, section twenty-four, township thirteen north, range eight east, Placer County, California.

2043. **Quartz, Semi-opal,** Referred to as Aragonite in No. 1832. Eighteen miles southeast of Santa Rosa, Sonoma County, Cal. Alfred W. Dana.

2044. **Pure Graphite,** Dixon's Perfect Lubricator. Foye Brothers.

2045. **Graphite Crucible.** Foye Brothers.

2046. **Chalcopyrite,** Campo Seco, Calaveras County, Cal. F. Utter.

2047. **Copper Ore,** Cedar Mine, twelve miles above Grass Valley, Nevada County, California. S. F. Ambler.

2048. **Fossils,** Moraga Creek, Contra Costa County, Cal. Hiram Tubbs.

2049. **Rock Salt,** Southwestern Mines, St. Thomas, Nevada, seven miles from the Colorado River. A. O. Wilcox.

2050. **Steatite,** Taylorville, Paper Mill Creek, Marin County, California.

2051. **Fossil Fish,** Green River, Wyoming.

2052. **Diorite** (?), Wall of furnace building, Clipper Gap Iron Mines, Placer County, California.

2053. **Silver Ore,** Golden Crown Mine, head of Bloody Canyon, Mono County, California. O. Fuller.

2054. **Ore,** From Kanaka Mine, six miles from Downieville, Sierra County, California. S. F. Ambler.

2055. **Magnetite,** Iron Mountain, near Shasta, Shasta County, California. W. E. Hale.

2056. **Diatomaceous Earth,** Oregon. C. A. Hughes.

2057. **Stratified Formation,** Old lime kiln, near Clipper Gap, Placer County, California.

2058. **Jet,** A variety of cannel coal, Nehalem River, Clatsop County, Oregon. Dr. Aug. C. Kinney.

2059. **Arquerite** (Silver Amalgam), See No. 2036, Manson Creek, British Columbia. George Kinney.

2060. **Sabre Solen,** Cape May, New Jersey. J. Z. Davis.

2061. **Fossils,** Astoria, Clatsop County, Oregon, to be determined in the future. Dr. Aug. C. Kinney.

2062. **Fossils,** Astoria, Clatsop County, Oregon. Dr. Aug. C. Kinney.

2063. **Fossils,** Astoria, Clatsop County, Oregon. Dr. Aug. C. Kinney.

2064. **Fossils,** Astoria, Clatsop County, Oregon. Dr. Aug. C. Kinney.

2065. **Fossils,** Astoria, Clatsop County, Oregon. Dr. Aug. C. Kinney.

2066. **Placer Gold,** Manson Creek, British Columbia, found with Arquerite.

2067. **Spear Points,** Found near Point Conception, Santa Barbara County, California. John Calvert.

2068. **Arrow Heads,** Found near Point Conception, Santa Barbara County, California. John Calvert.

2069. **Scraper** (?), Found near Point Conception, Santa Barbara County, California. John Calvert.

2070. **Three Arrow Heads,** Martha's Vineyard, Massachusetts. A. S. Church.

2071. **Arrow Head,** Ellensburg, Curry. County, Oregon. The Indians now occupying the ground have no skill in making them. They are thought by the donor to be at the age of the Mound Builders. Will Huntley.

2072. **Phallic Emblem,** Ellensburg, Curry County, Oregon. The present Indians regard this emblem with superstitious awe. They claim for it the power of speech and of moving from camp to camp. As the Phallic worship is said to be at the present time common in Japan, this may be a link between the Aborigines of the Pacific Coast and the Asiatic race. Will Huntley.

2073. **Grape Shot,** Found on the battle field of New Orleans. The date of the battle is January 8th, 1815. J. Z. Davis.

2074. **Old Musket Flints,** Found on the battle-field at New Orleans. Battle fought January 8th, 1815. J. Z. Davis.

2075. **Pyrargyrite** (Ruby Silver), Caracoles, Bolivia. Henry G. Hanks.

2076. **Arrow Heads of Obsidian,** Mokelumne River, sixteen miles north of Stockton. C. W. Perley.

2077. **Artificial Fuel** (Egg coal), Compressed from fine screenings, Philadelphia. J. Z. Davis.

2078. **Silver Ore,** Mineral Hill, Lake District, Mono County, California.

2079. **Diabase** (Feldspar, Pyroxene, and Chlorite), With section for the microscope, North Pacific Railroad, near Saucelito, Marin County, California.

2080. **Epsomite** (Sulphate of Magnesia), Epsom, England. J. Z. Davis.

2081. **Peat,** Barnegat Bay, New Jersey, J. Z. Davis.

2082. **Silver Copper Ore,** Silver, twenty-two dollars and seventy-five cents per ton; copper, nineteen per cent., Texada Island, British Columbia. John Calvert.

2083. **Copper Ore,** (Chrysocolla), Near Scammon's Lagoon, Lower California, Mexico.

2084. **Plastic Clay,** Near Tacoma, Washington Territory. F. B. Lyle.

2085. **Pina nigra,** China. J. Z. Davis.

2086. **Native Copper** (?).

2087. **Bituminous Shale** (Wollongongite), Australia. J. Z. Davis.

2088. **Pah-Ute Bird Cage.** J. H. Baker.

2089. **Selenite** (Gypsum), Lower California, Mexico, just below the line of San Diego County, California. W. A. Winder.

2090. **Wax,** Washed on shore from an ancient wreck, supposed to be Japanese, coast of Oregon, between Tillamook Bay and the mouth of the Columbia River. See No. 1401. Charles A. Hughes.

2091. **Gold Quartz,** Gold Run Mine, from the hanging wall, sixty feet from surface. Tunnel cuts the vein at sixty feet, shaft forty feet, vein sixteen feet wide, section thirty, township ten, range nine, Webber Creek, El Dorado County, California. S. A. Coburn.

2092. **Buhr Mill Stone,** Bald Peter Mountain, Oregon. Joseph Wagner.

2093. **Ionite,** Ione Valley, Amador County, California. Jacob E. Bowman.

2094. **Coke,** Made from ionite. See No. 2093. Jacob E. Bowman.

2095. **Gorgonia aurantii,** Gulf of California. J. Z. Davis.

2096. **Clay,** From well at Hotel Del Monte, Monterey, forty-five feet. J. Z. Davis.

2097. **Clay,** From well at Hotel Del Monte, Monterey, ninety-six feet. J. Z. Davis.

2098. **Clay,** From well at Hotel Del Monte, Monterey, two hundred and sixteen feet. J. Z. Davis.

2099. **Breccia,** Idaho. J. A. Rupert.

2100. **Conglomerate,** Point Lobos, seven miles southwest of Monterey, California. J. Z. Davis.

2101. **Native Silver,** Stonewall Jackson Mine, Pinal County, Arizona. Melville Attwood.

2102. **Lignite,** Ione Valley, Amador County, California. Jacob E. Bowman.

2103. **Gold Quartz,** Coe Mine, Coulterville, Mariposa County, California. J. W. Coe.

2104. **Sedimentary Rock,** From a well, four hundred and seventy-eight feet below the surface, Redwood City, San Mateo County, California. S. B. Haley. [This specimen is rich in native or free silver. The presence of silver is very remarkable, and the matter will be investigated at some future time.]

2105. **Azurite** (Blue carbonate of copper), Bluebell Copper Mine, Railroad District, Elko County, Nevada.

2106. **Conglomerate,** Pebble Beach, Pescadero, San Mateo County, California. J. Z. Davis.

2107. **Quartz** (Chalcedony), Aurora, Esmeralda County, Nevada. F. M. Smith.

2108. **Silver Ore,** Magenta Mine, Cortez District, Eureka County, Nevada. George Cummings.

2109. **Silver Ore,** May Lundy Mine, Homer Distric Mono County, California. Hon. Joseph Wasso

2110. **Weathered Sandstone,** Pescadero, San Mate County, California. Miss Jenny Brummagim.

2111. **Silver Ore,** Original Baltic Mine, Eureka Count Nevada. Gus Peterson.

2112. **Galena,** May Lundy Mine, Homer District, Mor County, California. (See No. 2109.) Hon. Josep Wasson.

2113. **California Portland Cement,** Works at San Cruz. California Portland Cement Company.

2114. **California Portland Cement in its Crude Stat** Before being ground. California Portland Ceme Company.

2115. **Artificial Stone,** California Portland Cement Cor pany.

2116. **Devitrified Glass.** Carlton Newman.

2117. **Black Clay,** Stained with oxide of Manganese (? west or hanging wall of Bodie mines, foun throughout the district. Hon. Joseph Wasson.

2118. **Clay,** Found opposite Independence, Inyo Count California. J. D. Hudgin.

2119. **Silver Ore,** Caroline Mine, Deep Spring Distric Inyo County, California. F. M. Smith.

2120. **Blue Clay Slip,** Three hundred-foot level Dudl Mine, Bodie, Mono County, California. Ho Joseph Wasson.

2121. **Picrolite in Serpentine,** Yuba River, Nevac County, California. S. W. Shaw.

2122. **Dendrites,** Called by the miners "Picture Quartz Standard Mine, Bodie, Mono County, Californi Hon. Joseph Wasson.

2123. **Clay,** Near Jackson, Amador County, Californi Isaac Bluxome.

2124. **Fragment,** From the hill on which Socrates preached at Athens, Greece. A. S. Church.

2125. **Tufa,** Sulphur Springs, Mono County, California. F. M. Smith.

2126. **Jefferisite,** Susanville, Lassen County, California. Horace Hurley.

2127. **Olive Wood,** Mount of Olives, Jerusalem. A. S. Church.

2128. **Pyrite,** Mono County, California.

2129. **Tremolite** (Variety of Amphibole), Santa Cruz Mountains, California. T. Mahoney.

2130. **Azurite and Malachite** (Blue and Green Carbonates of Copper), Longfellow Copper Mine, Rio San Francisco, fifteen miles above the Gila, Apache County, Arizona. N. S. Davis.

2131. **Portion of a Brick,** From the great wall of China. The bricks are fifteen inches long, four and a half thick and eight and a half wide. H. L. Burrows.

2132. **Pinna saccata** (Variety of P. nuttalli.) J. Z. Davis.

2133. **Quartz with Pyrite,** Alaska. Capt. C. J. Hague.

2134. **Jaws of Orca gladiator or Whale Killer,** Body twenty to thirty feet long, Bay of Monterey. J. Z. Davis.

2135. **Human Cranium,** Taken from an Indian mound, twenty-five miles below the city of Sacramento, California; Runyon's Ranch, near the river.

2136. **Copper Ore,** St. Katherina Mine, San Luis Obispo County, California. W. F. Benton.

2137. **Copper Ore,** Grizzly Den Mine, San Luis Obispo County, California. W. F. Benton.

2138. **Gold Quartz,** Euchre Bar Mine, section five, township fifteen north, range eleven east, Placer County, California, contact vein. A. Larson.

2139. **Vein Matter,** Hanging wall, Euchre Bar Mine, Placer County, California. A. Larson.

2140. **Vein Matter,** Foot wall, Euchre Bar Mine, Placer County, California. A. Larson.

2141. **Vein Matter,** Near the hanging wall, Euchre Bar Mine, Placer County, California. A. Larson.

2142. **West Country Rock** (Serpentine), Euchre Bar Mine, Placer County, California. A. Larson.

2143. **East Country Rock** (Not determined), Euchre Bar Mine, Placer County, California. A. Larson.

2144. **Hanging Wall** (East), Euchre Bar Mine, Placer County, California. A. Larson.

2145. **Wooden Nut Cracker,** Made and sold at Interlachen, Switzerland. A. S. Church.

2146. **Natural or Solar Salt,** Shores of Salt Lake, Utah. A. S. Church.

2147. **Fragment of Lava,** From the Crater of Vesuvius, two hundred feet down. A. S. Church.

2148. **Mosaic,** Baths of Caracalla, Rome. A. S. Church.

2149. **Portion of Tomb of Cæcilia Metella,** Appian Way, Rome. A. S. Church.

2150. **Fragment of the Colosseum,** At Rome. A. S. Church.

2151. **Fragment of the Leaning Tower,** Pisa, Italy. A. S. Church.

2152. **Fragment from the Milk Grotto,** Bethlehem. Tradition says that the Holy Family rested at this grotto in their flight.

2153. **Fragment from the Convent of Mar Saba,** Near Jerusalem. No woman ever allowed within the walls. A. S. Church.

2154. **Sphalerite** (Zinc Blende), Dennis Martin's Ranch, four miles west of Menlo Park, San Mateo, County, California. G. Rich.

2155. **Mineral not Determined,** Longfellow Copper Mine, Apache County, Arizona. John Collins.

2156. **Wall Rocks with Azurite,** Longfellow Copper Mine, Apache County, Arizona. John Collins.

2157. **Water,** From the River Jordan, taken from the scene of the baptism. A. S. Church.

2158. **Pebbles,** From the shores of the Dead Sea. A. S. Church.

2159. **Helix,** Bethlehem. A. S. Church.

2160. **Mica,** New Mexico. Joseph Mosheimer.

2161. **Salt Water,** From spring, section thirty, township thirteen north, range nine east, Placer County, Cal. James A. Hoagland.

2162. **Calcite** (Black), Amador County, near Volcano. Isaac Bluxome.

2163. **Calcite,** Amador County, California, near Volcano. Isaac Bluxome.

2164. **Quartz** (Chalcedony), Volcano, Amador County, California. Isaac Bluxome.

2165. **Dendritic Oxide of Manganese,** Near Volcano, Amador County, California. Isaac Bluxome.

2166. **Sandstone,** Eight miles west of Napa City, Napa County, California. Cyrus Cutler.

2167. **Silicified Wood,** Near Volcano, Amador County, California. Isaac Bluxome.

2168. **Anglesite** (Sulphate of Lead), Modoc Mine, Inyo County, California.

2169. **Azurite** (Blue Carbonate of Copper), Modoc Mine, Inyo County, California.

2170. **Quartz Crystal,** Modoc Mine, Inyo County, California.

2171. **Limestone,** Modoc Mine, Inyo County, California.

2172. **Gold Quartz,** Royal Arch Mine, six miles south of Modoc Mine, Inyo County, California.

2173. **Calcite** (Carbonate of Lime), Modoc Mine, Inyo County, California.

2174. **Gold Ore** (Rich), Black Hills, Dakota.

2175. **Dolomite** (Carbonate of Lime and Magnesia), Modoc Mine, Inyo County, California.

2176. **Crystals,** Found in furnace slag, Modoc Mine, Inyo County, California.

2177. **Smithsonite and Cerussite,** Modoc Mine, Inyo County, California.

2178. **Coral** (?), Amoy, China.

2179. **Azurite** (Blue Carbonate of Copper), Ygnacio Mine, Cerro Gordo District, Inyo County, California. S. D. Woodhull.

2180. **Silver Ore** (Embolite), Indiana Mine, near Swansea, Inyo County, California. S. D. Woodhull.

2181. **Copper Ore,** Hirsch Mine, nine miles southeast of Independence, Inyo County, California. Same ledge as Old Eclipse. This specimen is principally Cuprite. S. D. Woodhull.

2182. **Silver Ore,** Gladiator Mine, Mazourka Canyon, Inyo County, California. S. D. Woodhull.

2183. **Silver Ore,** Union Mine, twelve miles south of Independence, Inyo County, California. S. D. Woodhull.

2184. **Silver Ore,** Zulu Mine, Deep Spring District, Inyo County, California. S. D. Woodhull.

2185. **Silver Ore,** Wonder Mine, White Mountains, thirty-five miles north of Independence, Inyo County, California. S. D. Woodhull.

2186. **Rock Specimen,** Deep Springs District, Inyo County, California. S. D. Woodhull.

2187. **Rock Specimen,** Found in large masses on the eastern slope of the White Mountains, Inyo County, California. S. D. Woodhull.

2188. **Wall Rock of Indiana Mine,** Near Swansea, Inyo County, California. (See No. 2180.) S. D. Woodhull.

2189. **Silicious Breccia** (Buhr Mill Stone), Little Butte, section thirteen, township thirteen south, range thirty-five east, Mount Diablo meridian. S. D. Woodhull.

2190. **Grossularite and Datholite,** San Carlos, Inyo County, California. S. D. Woodhull. (See paper by J. L. Smith.)

2191. **Silver Ore,** Indian Scout Mine, Deep Spring Valley, Inyo County, California. S. D. Woodhull.

2192. **Chrysolite with Calcite,** Near Independence, Inyo County, California. S. D. Woodhull.

2193. **Argentiferous Sandstone,** Leeds Mine, Washington County, Utah. E. M. Crane.

2194. **Petrified Wood** (Argentiferous), Leeds Mine, Washington County, Utah. E. M. Crane.

2195. **Argentiferous Sandstone** (Stained with Azurite), Leeds Mine, Washington County, Utah. E. M. Crane.

2196. **Argentiferous Sandstone,** Showing fossil plants, Leeds Mine, Washington County, Utah. E. M. Crane.

2197. **Clay,** Casing of Leeds Mine, Washington County, Utah. E. M. Crane.

2198. **Argentiferous Sandstone,** Remains of plants, Kinner (?) Mine, Washington County, Utah. E. M. Crane.

2199. **Argentiferous Sandstone with Lignite,** Leeds Mine, Washington County, Utah. E. M. Crane.

2200. **Argentiferous Sandstone** (Slaty Structure), Stormont Mine, Washington County, Utah. E. M. Crane.

2201. **Argentiferous Sandstone,** Showing free silver and fossil plants, Stormont Mine, Washington County, Utah. E. M. Crane.

2202. **Argentiferous Sandstone,** Stormont Mine, Washington County, Utah. E. M. Crane.

2203. **Argentiferous Sandstone with Fossil Plants,** Washington County, Utah. E. M. Crane.

2204. **Argentiferous Sandstone with Lignite,** Stormont Mine, Washington County, Utah. E. M. Crane.

2205. **Argentiferous Sandstone,** Christie Mine, Washington County, Utah. E. M. Crane.

2206. **Argentiferous Sandstone** (Slaty Formation), Christie Mine, Washington County, Utah. E. M. Crane.

2207. **Argentiferous Sandstone with Fossil Plants,** Christie Mine, Washington County, Utah. E. M. Crane.

2208. **Argentiferous Sandstone,** Walker & Barbee Mine, Washington County, Utah. E. M. Crane.

2209. **Fossil Plants** (Argentiferous), Leeds Mine, Washington County, Utah. E. M. Crane.

2210. **Argentiferous Sandstone,** Thompson & McNally Mine, Washington County, Utah. E. M. Crane.

2211. **Argentiferous Sandstone with Fossil Plants,** Thompson & McNally Mine, Washington County, Utah. E. M. Crane.

2212. **Argentiferous Sandstone with Lignite,** Thompson & McNally Mine, Washington County, Utah. E. M. Crane.

2213. **Quartz** (Flint), Dover, England. J. Z. Davis.

2214. **Feldspar** (Orthoclase), Rio Janeiro, Brazil. J. Z. Davis.

2215. **Dolomite** (?), Guadalupe Quicksilver Mine, Santa Clara County, California. B. B. Thayer.

2216. **Carboniferous Fossils** (Camarophora), Farewell Gap, Tulare County, California. J. C. Palmer.

2217. **Cuprite and Malachite,** Longfellow Mine, Apache County, Arizona. John Collins.

2218. **Cuprite and Native Copper,** Longfellow Copper Mine, Apache County, Arizona. John Collins.

2219. **Breccia of Chrysocolla and Azurite,** Longfellow Copper Mine, Apache County, Arizona. John Collins.

2220. **Native Copper with Cuprite,** Longfellow Copper Mine, Apache County, Arizona. John Collins.

2221. **Azurite** (Blue Carbonate of Copper), Longfellow Copper Mine, Apache County, Arizona. John Collins.

2222. **Malaconite ?** (Black Oxide of Copper), Longfellow Copper Mine, Apache County, Arizona. John Collins.

2223. **Malachite** (Carbonate of Copper), Longfellow Copper Mine, Apache County, Arizona. John Collins.

2224. **Rich Copper Ore,** Longfellow Copper Mine, Apache County, Arizona. John Collins.

2225. **Wall Rocks,** Longfellow Copper Mine, Apache County, Arizona. John Collins.

2226. **Wall Rocks with Azurite,** Longfellow Copper Mine, Apache County, Arizona. John Collins.

2227. **Malaconite ?** (Jaspery), Longfellow Copper Mine, Apache County, Arizona. John Collins.

2228. **Bronze Elephant,** Coast of Oregon, between the mouth of the Columbia River and Tillamook Bay. [Washed ashore from the same wreck from which the chain (No. 1401), and the wax (No. 2090), were obtained.] Charles A. Hughes..

2229. **Bowl of the Sacred Terraces,** Of the Zuni Indians, Zuni Villages, New Mexico. Hon. Jos. Wasson. [This bowl is a sacred emblem. The Terraces represents the rise of the human race from the earth by successive steps, and the figure on each side is emblematic of the first germ of life.]

2230. **Stone Hook,** Hooktown or Springville, Humboldt County, California. P. G. Tuttle. [This interesting relic was turned up in plowing. The locality is a point of land two hundred feet above tide level, and half a mile from the beach. There is no superficial indication of a settlement. The whole hill was covered with fern and bushes. None of the Indians living in the neighborhood knew anything of its use or origin.]

2231. **Mineral Soap** (so called), Elko, Nevada. A. J. Thibodo.

ANALYSIS BY DEPARTMENT OF AGRICULTURE AT WASHINGTON.

Moisture and volatile matter	16.19
Silica	73.60
Iron and alumina (oxides)	6.20
Magnesia	0.34
Potash	1.17
Total	97.50

With water it forms a soapy liquid and has great detergent power.

2232. **Copper Ore** (Chrysocolla), Blue Bell Mine, Railroad District, Elko County, Nevada. A. J. Thibodo.

2233. **Fossil Shell,** State Prison Grounds, Carson, Nev. R. L. Fulton.

2234. **Fossil Shell,** State Prison Grounds, Carson, Nev. R. L. Fulton.

2235. **Fossil Shell,** State Prison Grounds, Carson, Nev. R. L. Fulton.

2236. **Fossil Ivory,** State Prison Grounds, Carson, Nev. R. I.. Fulton.

2237. **Cast of a portion of the Tusk of an Elephant,(?)** State Prison Grounds, Carson, Nev. R. L. Fulton.

2238. **Dolomite** (Resembling Fossil Coral), Morro, San Luis Obispo County, California. G. W. Michael, Jr.

2239. **Mytilus californianus,** *Con.*, Pescadero, San Mateo County, California. J. Z. Davis.

2240. **Saxidomus nuttalli,** *Con.*, Tertiary Pale., Cal. Vol. 2, fols. 58–98. J. Z. Davis.

2241. **Arca trilimota,** *Con.*, Monterey, California. J. Z. Davis.

2242. **Saxidomus,** *Sp.* (?), Eureka, Humboldt County, California. S. W. Collins.

2243. **Macoma and Nassa,** Monterey, California. J. Z. Davis.

2244. **Solen,** *Sp.* (?), Contra Costa County, California.

2245. **Arca and Solen,** Monterey County, California. J. Z. Davis.

2246. **Macoma nasuta,** *Con.*, Tertiary Pale., Cal. Vol. 2, fol. 93. [Well at Hotel del Monte, Monterey, California.] J. Z. Davis.

2247. **Lunatia and Solen,** Tertiary, Monterey County, California. J. Z. Davis.

2248. **Nassa perpinguis,** *Hds.*, Tertiary Pale., Cal. Vol. 2, fol. 75, Monterey, California. J. Z. Davis.

2249. **Cryptochiton stelleri,** *Midd.*, Pescadero, San Mateo County, California. J. Z. Davis.

2250. **Plates of Cryptochiton stelleri,** *Midd.*, Pescadero, San Mateo County, California.. J. Z. Davis.

2251. **Whale Barnacles,** Monterey, California. J. Z. Davis.

2252. **Macoma inconspicua,** *Br. & Sby.*, Tertiary Pale., Cal. Vol. 2, fols. 94–124, Martinez. J. Z. Davis.

2253. **Kellia laperousii,** *Desh.*, Monterey, California. J. Z. Davis.

2254. **Siphon Tube of Parapholas californianus,** Monterey, California. J. Z. Davis.

2255. **Parapholas californianus,** Monterey, California. J. Z. Davis.

2256. **Tubes of Teredo xylotrya,** Monterey, California. J. Z. Davis.

2257. **Pholadidea ovoidea,** Eureka, California.

2258. **Tapes staminea,** *Con.*, Tertiary Pale., Cal. Vol. 2, fol. 97, Monterey, California. J. Z. Davis.

2259. **Petricola carditoides,** Monterey, California. J. Z. Davis.

2260. **Rupellaria lamellifera,** *Con.*, Monterey, California. J. Z. Davis.

2261. **Adula falcata,** Monterey, California. J. Z. Davis.

2262. **Jamesonite,** Mokelumne Hill, Calaveras County, California. Frank Cummings.

2263. **Hornblende Rock,** Healdsburg, Sonoma County, California. C. L. Bigelow.

2264. **Section of a Pipe,** Nearly filled with Carbonate of Lime, Frink's Spring, Colorado Desert, San Diego County, California. [This pipe lay in the ground for only two years. The mineral is aragonite, containing magnesia, sulphate of lime, oxide of iron, and silica, as impurities.] J. R. Scupham.

2265. **Fossil Coral,** Not determined, New Mexico. Hon. Joseph Wasson.

2266. **Sulphuret Ore,** Orchoco Creek, Curry County, Oregon. Elisha Barnes.

2267. **Limonite,** Near Visalia, Tulare County, California. Mr. Lavelle.

2268. **Gypsum,** Near Breckenridge, Kern County, California. S. P. Blade.

2269. **Concretionary Cinnabar,** Coast Range, Kern County, California. S. P. Blade.

2270. **Steatite,** Soapstone Mountain, Kern County, California. S. P. Blade.

2271. **Pebbles,** Sebastopol, Sonoma County, California. A. W. Dana.

2272. **Sand Rock with Chalcedony,** Ten miles west of Havilah, Kern County, California. S. P. Blade.

2273. **Argentite** (Sulphide of Silver), said to be from Alaska. C. P. Purrington.

2274. **Magnetite,** Coast Range Mountains, San Benito County, California. T. N. Beatty.

ANALYSIS.

Water	.15
Silica	14.70
Sesquioxide of Iron	65.40
Protoxide of iron	18.72
Sulphur, trace only	-----
Total	98.97

2275. **Silver Ore,** Cinderella Mine, Kern County, California. S. P. Blade.

2276. **Talc in Quartz,** Yosemite Gold Mine, Mariposa County, California. M. Hullings.

2277. **Garnet Sand,** Ravine in Soapstone Mountain, twenty-four miles east of Bakersfield, Kern County, California. S. P. Blade.

2278. **Wood,** Found two hundred feet under lava bed, Magalia Gold and Silver Mine, near Dogtown, Butte County, California. L. F. Knight.

2279. **Calcite in Ore of Cinnabar,** Guadalupe Quicksilver Mine, Santa Clara County, California. B. B. Thayer.

2280. **Burnt Rock,** Guadalupe Quicksilver Mine, Santa Clara County, California. B. B. Thayer.

2281. **Soot,** From Condensers, Furnaces of Guadalupe Quicksilver Mine, Santa Clara County, California. B. B. Thayer.

2282. **Fine Grained Diorite** (with section), Mineral Hill District, Mono County, California. A. Jaquith. [This specimen contains more Hornblende than No. 2283, which is from the same locality. It contains also considerable finely divided Magnetite.]

2283. **Fine Grained Diorite** (with section), containing less Hornblende than No. 2282, which is from the same locality, and in which Magnetite is replaced by Pyrites. Mineral Hill, Mono County, California. A. Jaquith.

2284. **Pyritic Ore,** Containing one ounce of gold per ton. Near Numea, New Caledonia. J. G. Manning.

2285. **Micaceous Iron** (Hematite), Feather River, near Oroville, Butte County, California. S. W. Collins.

2286. **Black and Gold Marble,** Egyptian. J. Z. Davis.

2287. **Gray Marble,** Victoria, New South Wales, Australia. J. Z. Davis.

2288. **Marble,** Lake Champlain, New York. J. Z. Davis.

2289. **Marble,** French gray. J. Z. Davis.

2290. **Marble** (Sienna). J. Z. Davis.

2291. **Marble** (Bordella). J. Z. Davis.

2292. **Marble** (Aragonite), "Mexican Onyx." J. Z. Davis.

2293. **Marble,** Pennsylvania. J. Z. Davis.

2294. **Marble** (Dark), Tennessee. J. Z. Davis.

2295. **Marble,** Lake Champlain, New York. J. Z. Davis.

2296. **Marble,** Trenton Falls, New York. J. Z. Davis.

2297. **Marble,** Lisbon. J. Z. Davis.

2298. **Marble** (Black), Glen Falls, N. Y. (?) J. Z. Davis.

2299. **Marble** (Bastard), Lisbon. J. Z. Davis.

2300. **Marble,** Tennessee. J. Z. Davis.

2301. **Granite** (Polished), Dark, Quincy, Massachusetts. J. Z. Davis.

2302. **Granite** (Polished), Fox Islands, Maine. J. Z. Davis.

2303. **Granite** (Polished), Richmond, Virginia. J. Z. Davis.

2304. **Granite** (Polished), Richmond, Virginia. J. Z. Davis.

2305. **Syenite** (Red), Bay of Fundy. J. Z. Davis.

2306. **Photograph of the Aztec Calendar.** [This stone is built into the walls of the cathedral in the City of Mexico. For description, see Prescott's "Conquest of Mexico."] G. L. Zuber.

2307. **Photograph of the Cathedral in the City of Mexico.** (See No. 2306.) G. L. Zuber.

2308. **Photograph of the Aztec Sacrificial Stone,** Preserved in the Museum in the City of Mexico. G. L. Zuber.

2309. **Photograph of an Aztec Statue,** Preserved in the Museum in the City of Mexico. G. L. Zuber.

2310. **Photograph of the Aztec Statue Shaag Mool,** Preserved in the Museum of the City of Mexico. G. L. Zuber.

2311. **Photograph of the Aztec God of War,** Preserved in the Museum in the City of Mexico. G. L. Zuber.

2312. **Photograph of Mound Builder's Skull.** D. S. Marvin.

2313. **Chart of Comparison** between the Crania of Mound Builder and White Man. D. S. Marvin.

2314. **Comparative Chart** of Crania of Ancient Peruvian, Guatamalian Indian, and Abiquin. D. S. Marvin.

2315. **Roaring Sand,** So called from the fact that when set in motion on the hill side on which it lies, a roaring sound is produced. This effect is not confined to this sand. On the Peninsula of Sinai there is a hill called Jebel Nakus, or Bell Mountain, on one side of which sand lies at an angle of thirty degrees, which, when set in motion, produces a deep roaring sound, thought to be caused by friction and not from any inherent property in the sand itself. Hawaiian Islands. W. H. Murray.

2316. **Smoky Quartz,** Siskiyou County, California. John Daggett.

2317. **Coal Croppings,** Eight-foot vein, Yaqui River, Sonora, Mexico. Chas. McQuesten, M. D.

2318. **Basalt with Zeolite,** Siskiyou County, California. John Daggett.

2319. **Strophomena alternata,** *Con.*, Lower silurian fossil, Trenton limestone, New York.

2320. **Indian Implement,** Plano, Tulare County, California. Four others found at the same time. S. G. George, M. D.

2321. **Ore from El Carmen Mine,** Hite's Cove, Mariposa County, California. James J. Dolan.

2322. **Magnesite** (Carbonate of Magnesia), Tulare County, California. S. G. George, M. D.

2323. **Silver Ore,** Deer Creek, Tulare County, California. S. G. George, M. D.

2324. **Silver Ore,** Candelaria District, Esmeralda County, Nevada. S. G. George, M. D.

2325. **Croppings of Coal,** East of Yaqui River, Sonora, Mexico. Chas. McQuesten, M. D.

2326. **Coal Croppings,** San Javier, Sonora, Mexico. Chas. McQuesten, M. D.

2327. **Aragonite** (Onyx Marble), Mineral Spring, six miles above Kernville, Kern County, California. S. G. George, M. D.

2328. **Andradite Garnet,** Diamond Mountain, Lassen County, California. G. W. Law.

2329. **Rock very rich in gold,** Pinacate District, twenty-four miles south of Colton, San Bernardino County, California. J. R. Scupham.

2330. **Gypsum** (Alabaster), Storey County, Nevada. R. T. Maxwell, M. D.

2331. **Copper Ore** (Cuprite, Melaconite, Malachite, and Calcite), Santa Medio (?) Rancho, Coast Range. Sam. Blade.

2332. **Lick Ball,** A ball of hair found in the stomach of a cow. J. Z. Davis.

2333. **Wall Rock of Serpentine,** Called "Green Rock," Guadalupe Quicksilver Mine, Santa Clara County, California. B. B. Thayer.

2334. **Coal,** Santa Clara Coal Mine, twenty miles east of Santa Ana, Los Angeles County, California.

ANALYSIS.

Water	7.87
Volatile Hydrocarbons	29.93
Fixed Carbons	49.53
Ash	12.67
Total	100.00

2335. **Fossils from Coal Strata,** Containing No. 2334, Los Angeles County, California. J. R. Scupham.

2336. **Hematite,** Alameda County, California. R. D. Jackson.

2337. **Pyrolusite** (Bin Oxide of Manganese), Santa Rosa, Sonoma County, California. Alfred W. Dana.

2338. **Rich Cinnabar,** From different levels, from the surface to one thousand two hundred feet, Guadalupe Quicksilver Mine, Santa Clara County, California. B. B. Thayer.

2339. **The San Bernardino Meteorite,** Found in Ivanpah Mining District, San Bernardino County, California. Weight before cutting, 1,870 Troy ounces or 128 pounds and 3½ ounces avoirdupois. Length, 13.5 inches; width, 9.7 inches; thickness, 8 inches; solid capacity, 461.6 cubic inches; face of cube of equal capacity, 7.73 inches; specific gravity of the mass, 7.693.

ANALYSIS BY PROF. C. U. SHEPARD, PUBLISHED IN THE "AMERICAN JOURNAL OF SCIENCE," FOR MAY, 1880.

Iron	94.98
Nickel	4.52
Phosphorus	.07
Graphite	.10
Total	99.67

The Widmannstattian figures on the cut face were produced by the action of dilute nitric acid. The smooth ring or border was protected by wax, and must not be mistaken for a crust or outer shell. On the reverse end the natural figures are shown, which is a remarkable feature. The photographs are on a scale of one third.

2340. **Model of the Rosetta Stone.** The original is preserved in the British Museum. It was discovered in August, 1799, near Rosetta, in Lower Egypt; the inscriptions are in three languages—the Hieroglyphic, the Demotic, and the Greek. The study of this stone gave the clew to the reading of the Hieroglyphics. The translation in full is on the model.

2341. **Quartz Crystals,** Trenton Falls, New York. Miss A. M. Squire.

2342. **Chrysocolla** (Silicate of Copper), forty miles south of Colton, San Diego County, California. Luther Wagoner.

2343. **Chromic Iron,** London Iron Mine, four and a half miles northeast of San Luis Obispo, California. Luther Wagoner.

2344. **Copper Ore,** twelve miles north of San Luis Obispo, California. Luther Wagoner.

2345. **Portion of the Wire used in Firing the Gun at Fort Point** on the occasion of the driving the last spike in the trans-continental railroad, May 10, 1869. Capt. J. A. Coolidge.

2346. **Rich Gold Quartz,** Banner District, San Diego County, California. Luther Wagoner.

2347. **Anthracite Coal,** La Barranca, Sonora, Mexico. Charles McQuesten, M. D.

2348. **Pyrite** (Sulphuret of Iron), From a cavity in the Sunderland Quicksilver Mine, San Luis Obispo County, California. Luther Wagoner.

2349. **Silicified Wood with Fossil Worms** (?), Port Discovery, Washington Territory. Capt. J. A. Coolidge.

2350. **Azurite** (Blue Carbonate of Copper), Ivanpah District, San Bernardino County, California. Luther Wagoner.

2351. **Gold Quartz,** From the Cherokee Mine, Tuolumne County, California. J. R. Hall.

2352. **Marble,** California, but the exact locality unknown. Dr. R. T. Maxwell.

2353. **Fossil Wood,** Locality unknown. Capt. J. A. Coolidge.

2354. **Cast Iron from the First Pig cast in Oregon,** and probably the first on the Pacific Coast. Capt. J. A. Coolidge.

2355. **Shell of Fossil Oyster,** Livermore Valley, Alameda County, California. Capt. J. A. Coolidge.

2356. **Formerly the Highest Point of Mount Diablo,** Contra Costa County, California. Capt. J. A. Coolidge.

2357. **Cake of Sugar from the Sugar Pine** (*Pinus Lambertiana*), El Dorado County, California. Charles Purdy.

2358. **Rich Copper Ore** (Cuprite), May Flower Mine, Mineral King District, Tulare County, California. J. H. Tranger.

2359. **Vein Matter rich in Silver** (Proustite), Good Hope Mine, Elko County, Nevada. L. E. Atchison.

2360. **Portion of a Silver Coin** used in "salting" the North Ophir Mine, Argentine Mining District, near Virginia City, Nevada. [Taken out of the mine July 3, 1863. The stock sold on that day in Virginia Board for $57 50; the sales ceased after this discovery.] Bruce B. Lee.

2361. **Barnacle**, From Japanese waters, eleven months growth. Capt. J. A. Coolidge.

2362. **Indian Pipe Bowl**, Found twenty feet below the surface, Menlo Park, San Mateo County, California. J. C. Flood.

2363. **Zircon Sand**, Picayune Flat, Fresno County, California. E. A. T. Gallagher.

2364. **Specimen of Mica**, Sent from Germany to show the quality required for use in the arts.

2365. **Garnets**, Peru Mountains, Ventura County, California.

2366. **Steatite** (Soapstone), Tule River, Tulare County, California. S. G. George, M. D.

2367. **Kaolin** (with vessels made from the same), Arizona. Hon. Joseph Wasson.

2368. **Clay**, two miles north of Santa Rosa, Sonoma County, California. A. W. Dana.

2369. **Gold Quartz**, From Succedo Shaft, fifty feet below Mariposa Tunnel, Mariposa Estate, Mariposa County, California. Mark Brumagim.

2370. **Painted Rock** (so called), twelve miles from Santa Rosa, Sonoma County, California. A. W. Dana.

2371. **Lava** (?), Near Santa Rosa, Sonoma County, California. A. W. Dana.

2372. **Ore,** From the Alabama Mine, near Jamestown, Tuolumne County, California. W. N. Harris.

2373. **Ore,** From the Tulloch Mine, near the Summit, Tuolumne County, California, five miles south of Sonora and Mono road. W. N. Harris.

2374. **Gold Quartz,** Crystalline Mine, near Jamestown, Tuolumne County, California. W. N. Harris.

2375. **Pyrolusite** (Bin Oxide of Manganese), near Tomales, Marin County, California. Peter Morrissey.

2376. **Sedimentary Deposit resembling Diatomaceous Earth,** Twelve miles east of Santa Rosa, Sonoma County, California. A. W. Dana.

2377. **Cerargyrite** (Horn Silver), Robert D. Lee Mine, Leadville, Lake County, Colorado. Noel May.

2378. **Coal,** Cajon Pass, San Bernardino County, California. J. R. Scupham.

ANALYSIS.

Water	9.67
Volatile Hydrocarbons	27.67
Fixed Carbon	46.53
Ash	16.13
Total	100.00

2379. **Lignite,** Telegraph Hill, San Francisco.

ANALYSIS.

Water	1.30
Carbon	16.50
Ash	82.20
Total	100.00

2380. **Gneiss with veins of Orthoclase Feldspar,** Rio Janeiro, Brazil. (See No. 4214.) J. Z. Davis.

2381. **Coarse Granite,** Rio Janeiro, Brazil. J. Z. Davis.

2382. **Massive Quartz,** Rio Janeiro, Brazil. J. Z. Davis.

2383. **Aragonite,** Twelve miles north of San Luis Obispo, California. Luther Wagoner.

2384. **Calcite,** Inyo County, California. S. D. Woodhull.

2385. **Fossil Leaf,** Tuolumne County, California. Philip I. Figel.

2386. **Aragonite,** Found in a cave near Buffalo Salt Marsh, near Reno, Nevada. R. L. Fulton.

2387. **Silicified Wood,** Burnell Valley, Sonoma County, California. A. W. Dana.

2388. **Ore,** From Mount Diablo Mine. Geo. Henderson.

2389. **Silver Ore** ("Lime Carbonates" ?), Little Walter Mine, Horseshoe Gulch, Park County, Colorado. Noel May.

2390. **Ore,** From Bear Cave Mine, Dos Cabezas District, Pima County, Arizona. William Sublett.

2391. **Amber,** Baltic Sea. Hueter Brothers & Co.

2392. **Gum Copal** (including insect), Zanzibar, east coast of Africa. Hueter Brothers & Co.

2393. **Gum Copal,** Manila. Hueter Brothers & Co.

2394. **Gum Dammar,** Batavia, Java. Hueter Brothers & Co.

2395. **Chalcedony,** Sonoma County, California. A. W. Dana.

2396. **Asphaltum,** Egypt. Hueter Brothers & Co.

2397. **Limonite Concretions,** Forest Hill, Placer County, California. S. W. Collins.

2398. **Quartz,** From Tellurium Mine, Pine Grove, Amador County, California. W. F. Ames.

2399. **Silver Lead Ore,** Robinson Mine, Kokone, Park County, Colorado. Noel May.

2400. **Buhr Stone** ("New Quarry"), Leferte, France. C. F. Ferris.

2401. **Native Copper,** Iron Mountain, near Shasta, California.

2402. **Buhr Stone** ("Old Quarry"), Leferte, France. C. F. Ferris.

2403. **Atacamite and Hematite,** Atacama, Chile. E. O. F. Acker.

2404. **Stalactites** (?), Deposited by jets of steam at the Mud Volcanoes, San Diego County, California. [Qualitative analysis shows Carbonate of Lime with Silica, Iron, Alumina, Magnesia, and Sulphuric Acid in small quantities, and considerable common Salt.]

2405. **Limonite** (impure), Twenty miles from Spokane Falls and thirty miles from Pyramid Lake, Washington Territory. A. J. Minor.

ANALYSIS.

Silica	20.83
Sesquioxide of Iron	44.82
Alumina	23.68
Water hygroscopic	4.30
Combined water	6.50
Sulphur	Trace.
Total	100.13

2406. **Silver Ore** ("Sand Carbonates"), Mountain Chief Mine, Buckeye Gulch, Leadville, Lake County, Colorado. Noel May.

2407. **Ore,** From Louetta Mine, Iowa Gulch, Colorado. Noel May.

2408. **Ore,** From Talc Iron Mine, California Gulch, Leadville, Lake County, Colorado. Noel May.

2409. **Jasper showing Glacial Polish** (?), Market Street Cut, San Francisco. J. Z. Davis.

2410. **Ore** (Galena, Blende, and Stibnite), from Dunlap Mine, head of Santiago Canyon, Los Angeles County, California. Wm. Hollis.

2411. **Silver Ore,** Ontario Mine, Parley's Park, Utah. [Assay value $732 per ton, containing Galena, Blende, Pyrite, and Tetrahedrite.] W. P. Jenney.

2412. **Silver Ore,** Barcelona Mine, Spanish Belt, Nye County, Nevada. Henry M. Levy.

2413. **Hubnerite** (Tungstate of Manganese), Comstock Mine, near Deadwood, Black Hills, Dakota. W. P. Jenney.

2414. **Agate, Quartz, Crystals, and Amethyst,** Near Palisades, Eureka County, Nev. J. D. Hudgin.

2415. **Rock Specimen,** Foot wall at sixty feet, Gold Run Mine, Webber Creek, El Dorado County, California. S. A. Coburn.

2416. **Hanging Wall,** Gold Run Mine, Webber Creek, El Dorado County, California. S. A. Coburn.

2417. **Croppings,** Guadalupe Quicksilver Mine, Santa Clara County, California. B. B. Thayer.

2418. **Hornblende,** Sonora, Mexico. F. A. Lamont.

2419. **Asbestus,** White River, Tulare County, California. S. G. George, M. D.

2420. **Gypsum,** Lower California, Mexico, just below the line of San Diego County. W. A. Winder.

2421. **Rich Gold Quartz,** Mexican Mine, one hundred feet deep on shaft, Mariposa Estate, Mariposa County, California. Mark Brumagim.

2422. **Quartz,** Succedo Shaft, five hundred feet below the surface, Mariposa Tunnel, Mother Vein, Mariposa Estate, Mariposa County, Cal. M. Brumagim.

2423. **Galena,** Peerless Mine, Horseshoe Gulch, Park County, Colorado. Noel May.

2424. **Fossil Oyster,** Foot of Mount Diablo, Contra Costa County, California. Hiram Tubbs.

2425. **Gold Quartz,** Calaveras County, California, two miles from the Sheep Ranch Mine. Hiram Tubbs.

2426. **Fossil Leaves,** Livermore Valley, Huff's Ranch, Alameda County, California. Hiram Tubbs.

2427. **Sulphuret Ore,** Murchie Mine, Nevada County, two miles from Nevada City, Nevada County, California. J. H. Onstott.

2428. **Weathered Limestone** (possibly Glacier grooving), Cave City, Calaveras County, California. Hiram Tubbs.

2429. **Gold in Cement,** Blue Lead, Sierra County, California. Philip J. Perkins.

2430. **Galena,** Crusader Mine, Horseshoe Gulch, Park County, Colorado. Noel May.

2431. **Chromic Iron,** near Latrobe, El Dorado County, California, ledge said to be three to six feet thick. Michael Grogan.

2432. **Fossil Fish** (Diplomystus humilis?), Leidy, Green River Shale, Wyoming. Philip J. Figel.

2433. **Silicified Wood and Lignite,** Mount Diablo Coal Mines, Contra Costa County, California. G. Rich.

2434. **Silver Ore** (Red Ore), three hundred foot level, Jones and Kinkead Mine, Pyramid Lake District, Roop County (?), Nevada. R. L. Fulton.

2435. **Azurite, Malachite** (Carbonates of Copper), and **Cuprite** (Oxide of Copper), Iron Mountain, Shasta County, California. G. Rich.

2436. **Asphaltum,** Cuba. Hueter Brothers & Co.

2437. **Asbestus,** Lower part of Mount Bullion, one third of a mile east of Bear Valley, Mariposa County, California. [Occurs in a clay formation and is four inches wide (?)]. Mark Brumagim.

2438. **Rich Copper Ore,** Candace Mine, Colusa County, California. E. A. Frenzel.

2439. **Cuprite and Native Copper,** Candace Mine, Colusa County, California. E. A. Frenzel.

2440. **Rich Copper Ore,** Lellia Mine, Candace Consolidated Mining Company, Colusa County, California. E. A. Frenzel.

2441. **Rich Copper Ore,** Fortuna Mine, Candace Consolidated Mining Company, Colusa County, Cal. E. A. Frenzel.

2442. **Rich Copper Ore,** American Mine, Candace Consolidated Mining Company, Colusa County, California. E. A. Frenzel.

2443. **Incrustation** (Mud Volcanoes), Colorado Desert, San Diego County, California.

ANALYSIS.

Water	2.35
Chloride of Sodium	1.26
Sesquioxide of Iron	2.16
Sulphate of Lime	1.79
Carbonate of Lime	78.10
Carbonate of Magnesia	2.84
Silica, Clay, etc.	9.97
Total	98.47

2444. **Diatomaceous Earth,** Ventura County, California.

2445. **Lignite,** San Pablo Creek, Contra Costa County, California. Hiram Tubbs.

2446. **Bowlder of Smoky Quartz Crystal,** North Fork of Feather River, Butte County (?), California. H. G. Kuhl.

2447. **Fossils which occur with the Coal** (No. 2378), Cajon Pass, San Bernardino County, California. J. R. Scupham.

2448. **Fossil Shells** (Pecten?), Eel River, twelve miles from the ocean, Humboldt County, California. P. G. Tuttle.

2449. **Coal,** Battle Mountain, Lander County, Nevada. J. R. Scupham.

2450. **Ore,** From Oro Fino Mine, El Dorado County, California. [Thirty foot level said to be rich in gold. This rock is principally quartz, with some calcite and a large quantity of bright crystals of pyrites, very interesting when seen under the microscope.] J. H. L. Tuck.

2451. **Pyrargyrite and Proustite Crystals in Quartz,** Oro Mine, Bodie, Mono County, California. M. Attwood.

2452. **Ore,** From Delano Gold and Silver Mine, Deer Creek, Tulare County, California. E. Chauvin.

2453. **Ore**, From Corcoran Mine, Walker River Range, Esmeralda County, Nevada. Philip Corcoran.

2454. **Ore**, From Olsen Mine, Tuolumne County, near La Grange. J. C. Winans.

2455. **Iron Ore** (Limonite), between Jenny Lind and Campo Seco, Calaveras County, California. [Occurs on the top of a round hill, cropping twelve feet above ground and fifteen feet wide, large quantity on the surface.] B. Orengo.

2456. **Ore**, From Star Mine (Galena and Blende), Walker River Range, Esmeralda County, Nevada. Philip Corcoran.

2457. **Coal**, From Coos Bay, Coos County, Oregon, showing its ligneous origin. J. Z. Davis.

2458. **Rock Specimen**, Foot wall at surface, Gold Run Mine, El Dorado County, California. S. A. Coburn.

2459. **Diatomaceous Earth** (?), Near Pinole Station, Contra Costa County, California. Otto Meves.

2460. **Silver Ore**, Cuatro Senores Mine, Copala, Sinaloa, Mexico. J. P. Dufresne.

2461. **Silver Ore**, Escalera Mine, Topina, Durango, Mexico. J. P. Dufresne.

2462. **Silver Ore**, Trinidad Mine, Copala, Sinaloa, Mexico. J. P. Dufresne.

2463. **Silver Ore**, San Jose Mine, Copala, Sinaloa, Mexico. J. P. Dufresne.

2464. **Silver Ore**, Cinco Senores Mine, Copala, Sinaloa, Mexico. J. P. Dufresne.

2465. **Silver Ore**, Union Mine, Mazatlan District, Mexico. J. P. Dufresne.

2466. **Gold Ore**, Union Mine, Mazatlan District, Mexico. J. P. Dufresne.

2467. **Silver Ore**, Alicran Mine, Copala, Sinaloa, Mexico. J. P. Dufresne.

2468. **French Key,** Bought in New Orleans as the Key of the Bastile. J. Z. Davis.

2469. **French Key of the Seventeenth Century.** J. Z. Davis.

2470. **French Key of the Seventeenth Century.** J. Z. Davis.

2471. **French Key of the Seventeenth Century.** J. Z. Davis.

2472. **French Lock of the Seventeenth Century.** J. Z. Davis.

2473. **Aragonite on Limestone,** Defiance Mine, Turquoise District, near Tombstone, Pima County, Arizona. J. G. Manning.

2474. **Calcite,** Goodenough Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2475. **Calcareous Tufa,** Vizina Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2476. **Gypsum** (Selenite), Vizina Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2477. **Quartz Rock,** Vizina Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2478. **Psilomelain** (Oxide of Manganese), Huachuca Mountains, Patagonia Range, Pinal County, Arizona. J. G. Manning.

2479. **Litharge, from Ancient Furnaces** (Common in Arizona), Willow Springs, Grant County, New Mexico. J. G. Manning.

2480. **Blue Calcite,** Longfellow Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2481. **Muscovite Mica,** Near Tucson, Pima County, Arizona. J. G. Manning.

2482. **Gypsum** (Selenite), San Pedro Mine, Cachise County, Arizona. J. G. Manning.

2483. **Calcite,** Bonanza Mine, Grant County, New Mexico. J. G. Manning.

2484. **Porphyry,** Harshaw District, Patagonia Mountains, Pinal County, Arizona. J. G. Manning.

2485. **Silver Ore,** Way-up Mine, Tombstone, Pima County, Arizona (?). J. G. Manning.

2486. **Silver Ore,** Contention Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2487. **Silver Ore,** Chance Mine, Victorio District, Grant County, New Mexico. J. G. Manning.

2488. **Silver Ore,** Head Center Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2489. **Galena Ore,** Butterfly Mine, Eureka District, Grant County, New Mexico. J. G. Manning.

2490. **Silver Ore,** Grand Central Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2491. **Silver Ore,** Bonanza Mine, Eureka District, Grant County, New Mexico. J. G. Manning.

2492. **Cerargyrite** (Horn Silver), Junietta Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2493. **Chromic Iron,** Ten miles from Portersville, Tulare County, California. S. G. George, M. D.

2494. **Sedimentary Metamorphic Rock** (?), The so-called "Porphyry" of the District, Tombstone, Pima County, Arizona. J. G. Manning.

2495. **Limestone,** Mountain Maid Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2496. **Hornblende Rock,** Lower California, near the coast. J. L. Trask.

2497. **Impure Limestone,** Vizina Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2498. **Limestone Wall Rocks,** Eureka District, Grant County, New Mexico. J. G. Manning.

2499. **Metamorphic Sedimentary Rock with Dendrites,** Mountain Maid Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2500. **Limestone Country Rocks,** Tombstone, Pima County, Arizona. J. G. Manning.

2501. **Calcite,** Bisbee Mule Pass, Pima County, Arizona. J. G. Manning.

2502. **Calcite,** Owl's Head or Minerva Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2503. **Metamorphic Sedimentary Rock,** Vizina Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2504. **Wall and Country Rocks,** Of Tombstone, Pima County, Arizona—nine specimens. J. G. Manning.

2505. **Wall Rocks,** Lucky Cuss Mine, Tombstone, Pima County, Arizona. J. G. Manning.

2506. **Rock Specimen,** Harshaw District, Patagonia Mountains, Pinal County, Arizona. J. G. Manning.

2507. **Wall Rock,** King Mine, Eureka District, Grant County, New Mexico. J. G. Manning.

2508. **Rock Specimen,** Cow Springs, Grant County, New Mexico. J. G. Manning.

2509. **Rock Specimen,** Viejo Range, Grant County, New Mexico. J. G. Manning.

2510. **Coal,** Black Diamond District, Deer Creek, Pinal County, Arizona. Chas. McQuesten, M. D.

2511. **Diatomaceous Earth,** Very rich, Graham Canyon, five miles south of Santa Rosa, Sonoma County, California. A. W. Dana.

2512. **Volcanic Ash allied to Pumice Stone,** Calaveras County, California, eighteen miles from Lodi. C. L. Ross.

2513. **Lignite,** Near Bieber, Lassen County, California. Brownell Brothers.

ANALYSIS.

Water	20.40
Volatile Hydrocarbons	11.40
Fixed Carbon	9.87
Ash	58.33
Total	100.00

2514. **Silver Ore,** Vizina Mine, Tombstone, Pima County, Arizona.

2515. **Lithomarge,** Near Big Trees, Calaveras County, California. A. Jaquith.

2516. **Gold Quartz,** Hayden Hill, Lassen County, California. John Daggett.

2517. **Ore,** From Modesto Silver Mine, McGrear Flat, two and a half miles southwest of Sebastopol, Mariposa County, California. Luther Wagoner.

2518. **Scapula of Mammoth,** Cascades, Wasco County, Oregon. E. F. Lorquin.

2519. **Coal,** From Eagle Mountain, Eastern Oregon. J. R. Scupham.

ANALYSIS.

Water	3.46
Volatile Hydrocarbons	27.46
Fixed Carbon	54.86
Ash	14.22
Total	100.00

2520. **Coal,** Near Vermilion Peak, east vein, Sonora, Mexico. J. R. Scupham.

ANALYSIS.

Water	2.46
Volatile Hydrocarbons	16.94
Fixed Carbon	61.27
Ash	19.33
Total	100.00

2521. **Coal,** San Carlos Reservation, Apache County, Arizona, east vein. J. R. Scupham.

ANALYSIS.

Water	0.66
Volatile Hydrocarbons	16.20
Fixed Carbon	70.47
Ash	12.67
Total	100.00

2522. **Fossil** (undetermined), Chorro Rancho, San Luis Obispo County, California. G. W. Michael, Jr.

2523. **Pecten discus** (?), Pacific Railroad Reports, Vol. 7, Santa Margarita Rancho, San Luis Obispo County, California. G. W. Michael, Jr.

2524. **Nodule of Dolomite,** Spur of hills north of Morro Bay, six miles from the ocean, and at an elevation of two hundred to three hundred feet. These nodules are found near the surface, and vary in size from a few inches to a foot or more in diameter; many of them have cavities lined with crystals. G. W. Michael, Jr.

2525. **Stone Vessel** (cut from a solid piece of Steatite or Soapstone). It has a remarkable resemblance to No. 1703; found on the top of a mountain in Cajon Pass, on Coyote Creek, San Bernardino County, California. Salisbury & Palen.

2526. **Chromic Iron,** San Mateo County, California. Pacific slope of the Redwoods, Chromic Acid 50.12 per cent. R. H. Sinton.

2527. **Phyllopteryx foliatus** (?), New Zealand. J. Z. Davis.

2528. **Octopus punctatus,** Gabb, Bay of San Francisco. Thos. Griffin.

2529. **Ostracion cornutus,** Japanese waters. Mrs. Jos. Clement.

2530. **Gerrhonotus multicarinatus,** California. Wm. G. W. Harford.

2531. **Crotaphytus reticulatus** (?), Arizona. Chas. W. Banks.

2532. **Ctenizia sp** (?), Arizona. Chas. W. Banks.

2533. **Sample of Coal,** Tejon Pass, Kern County, California. Capt. R. Battersby.

ANALYSIS.

Water	10.47
Volatile combustible matter	34.60
Fixed Carbon	44.86
Ash	10.07
Total	100.00

2534. **Nerita Scabrella,** Phil., Viti Islands. Thomas Griffin.

2535. **Solarium perspectivum,** Linn, Viti Islands. Thomas Griffin.

2536. **Turricula cadaverosa,** Reeve, Society Islands. Thomas Griffin.

2537. **Strombus minimus,** Linn, Viti Islands. Thomas Griffin.

2538. **Turricula exasperata,** Chem., Viti Islands. Thomas Griffin.

2539. **Modiola emarginata,** Reeve, Viti Islands. Thos. Griffin.

2540. **Cerithium columna,** Sow., Paumotu Islands. Thomas Griffin.

2541. **Coralliophila neratoiclea,** Chem., Society Islands. Thomas Griffin.

2542. **Struthiolaria scutulata,** Martyn, Australia. Thos. Griffin.

2543. **Nassa albescens,** Dunk., Samoa Islands. Thos. Griffin.

2544. **Oliva carneola,** Linn, Viti Islands. Thos. Griffin.

2545. **Modiola plumescens,** Dunk., Viti Islands. Thos. Griffin.

2546. **Nerita polita,** Linn, Viti Islands. Thos. Griffin.

2547. **Oliva guttata,** Lamarck, Society Islands. Thos. Griffin.

2548. **Tellina staurella,** Lamarck, Viti Islands. Thos. Griffin.

2549. **Asaphis tahitensis,** Benardi, Society Islands. Thos. Griffin.

2550. **Nassa arcularia,** Linn, Viti Islands. Thomas Griffin.

2551. **Cypræa mometa,** Linn, Viti Islands. Thomas Griffin.

2552. **Hemicardium unedo,** Linn, Viti Islands. Thomas Griffin.

2553. **Nassa monile,** Kiener, Viti Islands. Thomas Griffin.

2554. **Nassa nodifera,** Powis, Viti Islands. Thomas Griffin.

2555. **Cylindra fenestrata,** Lamarck, Society Islands. Thomas Griffin.

2556. **Mitra robusta,** Reeve, Viti Islands. Thomas Griffin.

2557. **Nerita planospira,** Anton, Viti Islands. Thomas Griffin.

2558. **Hiatula elongata,** Lamarck, Viti Islands. Thomas Griffin.

2559. **Donax fabus,** Chem., Viti Islands. Thomas Griffin.

2560. **Circe pectinata,** Linn, Society Islands. Thomas Griffin.

2561. **Cerithium carbonarium,** Phil., Viti Islands. Thomas Griffin.

2562. **Anapa triquetra,** Han., Viti Islands. Thomas Griffin.

2563. **Triton aquatile,** Reeve, Viti Islands. Thomas Griffin.

2564. **Pecten pallium,** Linn, Paumotu Islands. Thomas Griffin.

2565. **Donax cuneatus,** Linn, Viti Islands. Thomas Griffin.

2566. **Callista affinis,** Gmel., Viti Islands. Thomas Griffin.

2567. **Cardium orbita,** Reeve, Marquesas Islands. Thomas Griffin.

2568. **Cypræa caput serpentis,** Linn, Samoa Islands. Thomas Griffin.

2569. **Cypræa helvola,** Linn, Samoa Islands. Thomas Griffin.

2570. **Cypræa isabella,** Linn, Society Islands. Thomas Griffin.

2571. **Cypræa arneosa,** Gray, Society Islands. Thomas Griffin.

2572. **Nerita lineata,** Linn, Viti Islands. Thomas Griffin.

2573. **Mitra scabriuscula,** Linn, Society Islands. Thos. Griffin.

2574. **Cerithium moniliferum,** Kiener, Viti Islands. Thomas Griffin.

2575. **Lucina ramulosa,** Gould, Viti Islands. Thomas Griffin.

2576. **Nassa horrida,** Dunker, Samoa Islands. Thomas Griffin.

2577. **Cypræa scurra,** Chem., Paumotu Islands. Thos. Griffin.

2578. **Mytilicardia variegata,** Brug, Viti Islands. Thos. Griffin.

2579. **Cyrithium fucatum,** Pease, Society Islands. Thomas Griffin.

2580. **Strombus plicatus,** Lam., Viti Islands. Thos. Griffin.

2581. **Strombus floridus,** Lam., Paumotu Islands. Thomas Griffin.

2582. **Cypræa carneola,** Linn, Paumotu Islands. Thos. Griffin.

2583. **Cerithium petrosum**, Wood, Viti Islands. Thos. Griffin.

2584. **Trigonia pectinata**, Lam., Australia. Thomas Griffin.

2585. **Cerithium**, Viti Islands. Thomas Griffin.

2586. **Vasum armatum**, Brod., Paumotu Islands. Thomas Griffin.

2587. **Strombus rugosus**, Sowb., Viti Islands. Thomas Griffin.

2588. **Trivia childrini**, Gray, Paumotu Islands. Thos. Griffin.

2589. **Strombus**, Samoa Islands. Thomas Griffin.

2590. **Nassa kieneri**, Anton, Samoa Islands. Thomas Griffin.

2591. **Nassa acuticosta**, Mont., Viti Islands. Thomas Griffin.

2592. **Columbella versicolor**, Sowb., Samoa Islands. Thomas Griffin.

2593. **Sistrum morum**, Lam., Paumotu Islands. Thos. Griffin.

2594. **Nassa crassa**, Koch, Viti Islands. Thos. Griffin.

2595. **Cerithium morum**, Lam., Viti Islands. Thomas Griffin.

2596. **Lingula anatina**, Linn, Viti Islands. Thomas Griffin.

2597. **Lyotia hermanni**, Dunk., Samoa Islands. Thos. Griffin.

2598. **Cerithium variegatum**, Quoy et G., Samoa Islands. Thomas Griffin.

2599. **Cypræa irrirata**, Solen, Paumotu Islands. Thos. Griffin.

2600. **Hemicardium mundum,** Reeve, Viti Islands. Thomas Griffin.

2601. **Columbella ligula,** Duclos, Viti Islands. Thomas Griffin.

2602. **Imbricaria olivæformis,** Swain, Society Islands. Thomas Griffin.

2603. **Nassa picta,** A. Adams, Viti Islands. Thomas Griffin.

2604. **Trivia nucleus,** Linn, Paumotu Islands. Thomas Griffin.

2605. **Nerita,** Viti Islands. Thomas Griffin.

2606. **Turricula michanii,** Crosse, Viti Islands. Thos. Griffin.

2607. **Conus tesselatus,** Born., Society Islands. Thos. Griffin.

2608. **Trivia annulata,** Gray, Paumotu Islands. Thos. Griffin.

2609. **Nassa clathrata,** Kiener, Samoa Islands. Thos. Griffin.

2610. **Clanculus maxillatus,** Menke, Samoa Islands. Thomas Griffin.

2611. **Torinia trochoidea,** Desh., Society Islands. Thos. Griffin.

2612. **Planaxis lineolata,** Gould, Cook's Island. Thos. Griffin.

2613. **Torinia variegata,** Lam., Society Islands. Thos. Griffin.

2614. **Haliotis pulcherrima,** Chemn., Paumotu Islands, Thomas Griffin.

2615. **Ricinula iodostoma,** Lesson, Marquesas Islands. Thomas Griffin.

2616. **Lunella porphyrites,** Martyn, Samoa Islands. Thomas Griffin.

2617. **Cancellaria granosa,** Sowb., Australia. Thomas Griffin.

2618. **Cerithium maculosum,** Mighels, Paumotu Islands. Thomas Griffin.

2619. **Voluta zebra,** Leach, Australia. Thomas Griffin.

2620. **Pisania discolor,** Quoy, Cook's Island. Thomas Griffin.

2621. **Mitra filosa,** Born., Society Islands. Thomas Griffin.

2622. **Cypræa obvolata,** Lam., Society Islands. Thos. Griffin.

2623. **Mamma virginea,** Phil., Viti Islands. Thomas Griffin.

2624. **Nerita,** Gambiers. Thomas Griffin.

2625. **Tympanotomus,** Viti Islands. Thomas Griffin.

2626. **Triton truncatum,** Hinds, Viti Islands. Thomas Griffin.

2627. **Sistrum thiarellum,** Lam., Viti Islands. Thomas Griffin.

2628. **Amycla valga,** Gould, Viti Islands. Thomas Griffin.

2629. **Aplustrum aplustre,** Linn, Society Islands. Thomas Griffin.

2630. **Conus striatus,** Linn, Society Islands. Thomas Griffin.

2631. **Venus reticulata,** Linn, Society Islands. Thos. Griffin.

2632. **Conus hebræus,** Linn, Society Islands. Thomas Griffin.

2633. **Chiton,** Marquesas Islands. Thomas Griffin.

2634. **Conus textile,** Linn, Society Islands. Thomas Griffin.

2635. **Tapes variegata,** Sowb., Samoa Islands. Thomas Griffin.

2636. **Sistrum nodosum,** Dunk., Samoa Islands. Thos. Griffin.

2637. **Sistrum atromarginatum,** Blainv., Marquesas Islands. Thomas Griffin.

2638. **Sistrum rudis,** Dunk., Viti Islands. Thomas Griffin.

2639. **Euchilus atratus,** Gmelin, Viti Islands. Thomas Griffin.

2640. **Oxysteli amœna,** Gould, Viti Islands. Thomas Griffin.

2641. **Engina alveolata,** Kiener, Viti Islands. Thomas Griffin.

2642. **Liotia peronia,** Kiener, Viti Islands. Thomas Griffin.

2643. **Natica,** Viti Islands. Thomas Griffin.

2644. **Atys cylindrica,** Helbling, Viti Islands. Thomas Griffin.

2645. **Siphonaria atra,** Quoy, Viti Islands. Thomas Griffin.

2646. **Clanculus atropurpureus,** Gould, Samoa Islands. Thomas Griffin.

2647. **Littorina millegrana,** Phil., Viti Islands. Thos. Griffin.

2648. **Hiatula minor,** Desh., Viti Islands. Thos. Griffin.

2649. **Nassa nucleola,** A. Adams, Viti Islands. Thos. Griffin.

2650. **Nassa dispar,** A. Adams, Viti Islands. Thomas Griffin.

2651. **Hipponix acutus,** Quoy, Viti Islands. Thomas Griffin.

2652. **Pollia puncticulata,** Dunk., Viti Islands. Thos. Griffin.

2653. **Columbella nana,** Duclos, Society Islands. Thos. Griffin.

2654. **Planaxis brevis,** Quoy, Viti Islands. Thomas Griffin.

2655. **Columbella albinea,** Kiener, Viti Islands. Thos. Griffin.

2656. **Littorina cinerea,** Pease, Marquesas Islands. Thomas Griffin.

2657. **Eulima lactea,** A. Adams, Society Islands. Thos. Griffin.

2658. **Engina laerta,** Reeve, Samoa Islands. Thomas Griffin.

2659. **Pleurotoma tigrini,** Lam., Viti Islands. Thomas Griffin.

2660. **Terebra dimidiata,** Linn, Society Islands. Thos. Griffin.

2661. **Ruma melanostoma,** Lam., Society Islands. Thos. Griffin.

2662. **Cypræa achatina,** Sol., Society Islands. Thomas Griffin.

2663. **Ranella livida,** Reeve, Society Islands. Thomas Griffin.

2664. **Nassa paupera,** Gould, Samoa Islands. Thomas Griffin.

2665. **Collonia granulosa,** Pease, Samoa Islands. Thos. Griffin.

2666. **Planoxis atrata,** Pease, Marquesas Islands. Thos. Griffin.

2667. **Batissa tenebrosa,** Hinds, Viti Islands. Thomas Griffin.

2668. **Neritina porcata,** Gould, Samoa Islands. Thos. Griffin.

2669. **Neritina canalis,** Sowerby, Marquesas Islands. Thomas Griffin.

2670. **Navicella undulata,** Mousson, Viti Islands. Thos. Griffin.

2671. **Neritina cornuta,** Reeve, Viti Islands. Thomas Griffin.

2672. **Navicella freycineti,** Recluz, Viti Islands. Thos. Griffin.

2673. **Neritina subcanalis,** Mousson, Viti Islands. Thomas Griffin.

2674. **Melania cybele,** Gould, Viti Islands. Thomas Griffin.

2675. **Neritina pritchardi,** Dohrn, Viti Islands. Thos. Griffin.

2676. **Neritina subauriculata,** Recluz, Viti Islands. Thomas Griffin.

2677. **Neritina propinqua,** Mousson, Samoa Islands. Thomas Griffin.

2678. **Neritina zealandica,** Recluz, Viti Islands. Thos. Griffin.

2679. **Neritina cornea,** Linn, Viti Islands. Thos. Griffin.

2680. **Neritina dispar,** Pease, Cook's Island. Thomas Griffin.

2681. **Melania samoensis,** Reeve, Samoa Islands. Thomas Griffin.

2682. **Neritina chrysocolla,** Gould, Samoa Islands. Thomas Griffin.

2683. **Neritina olivacea,** Le Guillon, Viti Islands. Thos. Griffin.

2684. **Neritina parvula,** Le Guillon, Viti Islands. Thos. Griffin.

2685. **Neritina helvola,** Gould, Viti Islands. Thomas Griffin.

2686. **Neritina soulezetiana,** Recluz, Marquesas Islands. Thomas Griffin.

2687. **Neritina jovis,** Recluz, Marquesas Islands. Thos. Griffin.

2688. **Neritina tahitensis,** Lesson, Society Islands. Thomas Griffin.

2689. **Bulimus seemanni,** Dohrn, Viti Islands. Thos. Griffin.

2690. **Helix auricoma,** Ferussac, Cuba. Thos. Griffin.

2691. **Bulimus korvensis,** Garrett, Viti Islands. Thos. Griffin.

2692. **Partula varia,** Brod., Huahina Islands. Thomas Griffin.

2693. **Partula approximata,** Pease, Raiatea Island. Thomas Griffin.

2694. **Partula protea,** Pease, Raiatea Island. Thomas Griffin.

2695. **Partula otaheitana,** Brug., Tahiti Islands. Thos. Griffin.

2696. **Partula cognata,** Pease, Huahina Island. Thos. Griffin.

2697. **Helix palleus,** Pease, Moorea Island. Thomas Griffin.

2698. **Partula lutea,** Lesson, Borabora Island. Thomas Griffin.

2699. **Partula bilineata,** Pease, Tahaa Island. Thomas Griffin.

2700. **Partula fusca,** Pease, Raiatea Island. Thomas Griffin.

2701. **Partula huahinensis,** Garrett, Huahines Island. Thomas Griffin.

2702. **Partula simulans,** Pease, Moorea Island. Thos. Griffin.

2703. **Partula dentifera,** Pfeiffer, Raitea Island. Thos. Griffin.

2704. **Partula elongata,** Pease, Moorea Island. Thos. Griffin.

2705. **Bulimus ochrostomus,** Garrett, Viti Islands. Thomas Griffin.

2706. **Partula crassilabris,** Pease, Raiatea Island. Thomas Griffin.

2707. **Partula rustica,** Pease, Raiatea Island. Thomas Griffin.

2708. **Partula umbilicata,** Pease, Tahaa Island. Thos. Griffin.

2709. **Partula lirata,** Mousson, Viti Islands. Thomas Griffin.

2710. **Partula hyalina,** Brod., Tahiti Island. Thomas Griffin.

2711. **Partula peasiana,** Garrett, Raiatea Island. Thos. Griffin.

2712. **Partula vexillum,** Pease, Moorea Island. Thos. Griffin.

2713. **Partula lineata,** Lesson, Moorea Island. Thos. Griffin.

2714. **Cassidula intuscarinita,** Mousson, Viti Islands. Thomas Griffin.

2715. **Helicina maugeriae,** Gray, Raiatea Islands. Thomas Griffin.

2716. **Helicina tectiformis,** Mousson, Viti Islands. Thomas Griffin.

2717. **Partula auriculata,** Brod., Raiatea Islands. Thos. Griffin.

2718. **Partula faba,** Martyn, Raiatea Islands. Thom Griffin.

2719. **Bulimus morosus,** Gould, Viti Islands. Thom Griffin.

2720. **Partula rosea,** Brod., Huahine Islands. .Thom Griffin.

2721. **Pythia savaiensis,** Mousson, Wallis Islanc Thomas Griffin.

2722. **Partula amanda,** Garrett, Tahaa Islands. Thc Griffin.

2723. **Native Silver,** Lake Superior Copper Mine Michigan.

2724. **Native Silver with Native Copper,** Lake Sup rior Copper Mines, Michigan.

2725. **Anomia,** Atlantic City, New Jersey. J. Z. Davis

2726. **Mactra solidissima,** Chem., Atlantic City, Ne Jersey. J. Z. Davis.

2727. **Selenite** (Gypsum). Susanville, Lassen Count California. F. H. Merrill.

2728. **Ore,** Schaffer Lode, Cascade Mining Compar Negro Creek District, Yakima County, Washir ton Territory. Marshall Blinn.

2729. **Copper Ore,** Peacock Mine, west side Pueb Valley, Grant County, Oregon. J. C. Weir.

2730. **Chrysocolla** (Silicate of Copper), Weir Mine, ea side Pueblo Valley, Humboldt County, Nevad J. C. Weir.

2731. **Chrome Iron,** One mile south of Mountain Spri House, Amador County, California. J. P. Lambin

2732. **Clay with Pyrite,** Three miles north of Ione Cit Amador County, California. J. P. Lambing.

2733. **Rock Specimen,** Soledad Canyon, Los Angel County, California. G. D. Keeney.

2734. **Ore,** From Little Gem Mine, near Jamestown, Tuolumne County, California. W. N. Harris.

2735. **Tryonia clathrata,** Stimpson, (Tertiary Fossil), Colorado Desert, San Diego County, California. [Described in Smithsonian Miscellaneous Collections, No. 144, part 3, folio 70. One hundred and sixty-six thousand required to weigh one pound. The soil of the desert is largely composed of these shells.]

2736. **Thenardite Crystals** (Anhydrous Sulphate of Soda), Borax Marsh, Inyo County, California. Smith Bros.

2737. **Basalt with Olivine,** Columbia River, Washington Territory.

2738. **Copper Ore,** Cosumnes Copper Mine, Amador County, California. John T. McGeoghegan.

2739. **Alum and Sulphur,** Teel's Marsh, Esmeralda County, Nevada. Smith Bros.

2740. **Aragonite Crystals,** Candace Copper Mine, Colusa County, California. E. A. Frenzel.

2741. **Diatomaceous Earth,** White outcrop on the Salinas road, Jacks' Ranch, near Monterey, Monterey County, California. David Jacks.

2742. **Brown Freestone,** Coronado Island, twenty-five miles, more or less, south of San Diego, Lower California, Mexico. [This stone bears a striking resemblance to the "Brownstone" which is so extensively used in New York as a building stone.]

2743. **Phallic Symbol,** Plowed up near Pescadero, San Mateo County, California. Dr. S. S. Stambaugh.

2744. **Quicksilver Ore,** Great Eastern Mine, Sonoma County, California—two hundred and forty foot level. Luther Wagoner.

2745. **Impure Red Ocre,** McPherson's Claim, Sheep Ranch District, Calaveras County, California. Hiram Tubbs.

2746. **Rock resembling Halleflinta,** Fruit Vale, Alameda County, California. Hiram Tubbs.

2747. **Cinnabar in Sandstone,** Oat Hill, near Pope Valley, Lake County, California.

2748. **Quartz Diorite,** West wall of the Champion Mine, Providence Belt, Nevada County, California. J. J. Rey.

2749. **Confederate States Currency,** Issued in 1864. R. H. Sinton.

2750. **Confederate States Currency,** Issued in 1864. J. Z. Davis.

2751. **Continental Currency,** Issued by the State of Pennsylvania in 1777. J. Z. Davis.

2752. **Fractional Currency of the United States,** Issued in 1863. J. Z. Davis.

2753. **Postal Currency of the United States,** Issued in 1862. J. Z. Davis.

2754. **Gold Crystal,** Hungry Gulch, near Pine Grove, Amador County, California.

2755. **Indian Mortar,** California. Exact locality unknown.

2756. **Bundle of Arrows,** Used by the Indians of Owens River Valley, Inyo County, California. Henry G. Hanks.

2757. **Mound Builders' Pot,** Found in a large mound in Mississippi County, Missouri. P. J. Figel.

2758. **Lance Head,** Plowed up in a field near Woodland, Yolo County, California. Hiram Tubbs.

2759. **California Cotton,** Hopetown, Merced County, California. S. F. Journal of Commerce.

2760. **Asaphus gigas,** Lower Silurian Fossil, Trenton Period, New York. D. S. Marvin.

2761. **Zaphrentis,** Devonian Fossil, Canandaigua, New York. D. S. Marvin.

2762. **Lorraine Shale,** Lower Silurian, Jefferson County, New York.

2763. **Garnierite** (Silicate of Nickel), New Caledonia.

2764. **Native Silver in Calcite with Sphalerite,** San Miguel Mine, Botopilas, Chihuahua, Mexico.

2765. **Vermilion** (Sulphide of Mercury), Artificial. English manufacture.

2766. **Gorilla gina,** Gabon, Africa. J. Z. Davis.

2767. **Gorilla gina,** Skeleton of a young female. J. Z. Davis.

2768. **Chromic Iron,** Near South Fork of American River, and nine miles from Folsom. [Two thousand tons have been shipped from this mine.]

2769. **Gold Quartz,** Gold Blossom Mine, one thousand feet south of St. Patrick Lode, Placer County, California. J. F. Fulweiler.

2770. **Gypsum and Sulphur,** Esmeralda County, Nev. (See No. 2739.) J. F. Johnson.

2771. **Anthracite Coal** (?), Santa Clara Mine, Baranca Mill and Mining Company, Sonora, Mexico, one hundred and twenty miles east of Guaymas, near the Rio Yaqui.

PUBLISHED ANALYSIS, CHEMIST UNKNOWN.

Fixed Carbon	94	96
Ash	3	4
Water	1	2
Totals	98	102

2772. **Chromic Iron,** Solano County, California, near Fairfield. Wm. Neely Johnson.

2773. **Lepidolite,** Twenty miles southwest of Colton, San Bernardino County, California. G. Kustel.

2774. **Gold Quartz** (Free Gold), Mad Ox Mine, near Whisky Creek, Shasta County, California. Chas. Purdy.

2775. **Calcite**, Mad Ox Mine, near Whisky Creek, Shasta County, California. Chas. Purdy.

2776. **Garnet Rock**, Calpella, Mendocino County, California. [From a large cropping.] P. R. Klein.

2777. **Trigonia tryoniana**, Cretaceous Fossil, Pale., California; Vol. 1, fol. 188. Five or ten miles from the Monument, southeast corner of New Mexico and Arizona, Pima County, Arizona. L. A. Moore.

2778. **Serpentine** (Polished), Kelseyville, Lake County, California.

2779. **Silver Ore** (Embolite), Grove Mine, four hundred and fifty foot level, Humbug District, Yavapai County, Arizona. Geo. A. Vincent.

2780. **Ozocerite**, Utah. Henry S. Durden.

2781. **Quartzine** (Wall Rock), Mad Ox Mine, near Whisky Creek, Shasta County, California. (See No. 2274.) Charles Purdy.

2782. **Silver Ore** (Partzite), Silver Bar Mine, Coony Mining District, New Mexico. B. M. Gunn.

2783. **Tarantula's Nest**, Arizona. Capt. R. B. Arey.

2784. **Tooth of Carcharodon megalodon** (Fossil Shark), Tertiary, near Oakland, Alameda County, California. Hiram Tubbs.

2785. **Coal**, Queen Charlotte's Island, British Columbia. B. A. Harrison.

2786. **Talcose Rock**, Sonora, Mexico. J. P. Manrow. [It is proposed to make use of this material for ornamental purposes as a pigment.]

2787. **Bicarbonate of Soda**, Made in San Francisco from natural soda found in Churchill County, Nev. Factory 767 Bryant Street. John Flemming.

2788. **Iron Ore** (Magnetite), Oroville, Butte County, California. S. W. Collins.

2789. **Lithographic Stone** (?), Kern County, California. Exact locality not given.

2790. **Limonite and Psilomelane,** Santa Clara County, California. James Enright.

2791. **Artificial Stone,** Made from magnesite from Coyote Creek, near Madrone Station, S. P. R. R. [The rock was calcined, pulverized, and mixed with solution of chloride of magnesium, made by dissolving a portion of the powdered rock in common muriatic acid to about the consistence of cream. This was used as a cement to unite broken rock into a kind of concrete. In this specimen, broken marble was used as being most convenient at the time.] Henry S. Durden.

2792. **Sample of Gold, Platinum, and Sand,** Concentrated from twenty miners' pans of dirt, Calpella, Mendocino County, California.

2793. **Placuna sella,** Gmelin, Indian Ocean. J. Z. Davis.

2794. **Silver Ore,** San Francisco Mine, Washington District, Esmeralda County, Nevada. George A. Vincent.

2795. **Diatomaceous Earth,** As effected by the heat of a porcelain furnace.

2796. **Gold Quartz,** Gold King Mine, three miles southeast of Cherokee Flat, Butte County, California. J. B. Treadwell.

2797. **Cuprite,** Border of Mono Lake, Mono County, California. J. F. Johnson.

2798. **Small Specimens of Quartz, showing Free Gold,** Takou, Alaska. C. A. Hughes.

2799. **Block of Black Marble,** Near Central Pacific Railroad, two miles above Colfax, at the lower end of the high trestle, Placer County, California.

2800. **Selenite**, North Fork of the East Fork of the White Mountain River, Apache County, Arizona, near Fort Apache. Patrick Gannon.

2801. **Gypsum** (Satin Spar), White Mountain River, near Fort Apache, Apache County, Arizona. Patrick Gannon.

2802. **Block of Fossiliferous Marble**, White Mountain River, near Fort Apache, Apache County, Arizona. Patrick Gannon.

2803. **Gold Quartz**, Mount Auburn Mine, Providence Ledge, three miles north of Nevada City, Nevada County, California. From the Company.

2804. **Stibnite** (Sulphuret of Antimony), near Gilroy, Santa Clara County, California.

2805. **Erythrite** (Cobalt Bloom), Kelsey Mine, Compton, Los Angeles County, California.

2806. **Cake of Parafine**, From California petroleum. Schofield & Tevis.

2807. **Marble**, Half a mile from the railroad depot, Auburn, Placer County, California.

2808. **Rock Specimen**, Road between Auburn and the Iron Furnace, Placer County, California.

2809. **Silver Ore**, Peno Mine, Sinaloa, Mexico.

2810. **Silver Ore**, Faisan Mine, Panuco District, Sinaloa, Mexico. This specimen is peculiar in having imbedded crystals or fossils. It is worthy of a close examination.

2811. **Silver Ore**, Signal Mine, Mohave County, Arizona.

2812. **Gold Quartz**, Basco Mine, San Antonio Creek, Calaveras County, California. W. O. Lofland.

2813. **Silver Ore**, Lucky Jim Mine, New Coso, Inyo County, California.

2814. **Silver Ore,** Emigrant Mine, Lee District, Inyo County, California.

2815. **Silver Lead Ore,** King Mine, Hamilton, White Pine, Nevada.

2816. **Fluor Spar,** Arkansas Mine, Castle Dome District, Yuma County, Arizona.

2817. **Stalagmite,** Morro, San Luis Obispo County, California. G. W. Mitchell, Jr.

2818. **Coal** (West Vein), Near Vermilion Peak, Sonora, Mexico. J. R. Scupham.

2819. **Coal** (East Vein), Near Vermilion Peak, Sonora, Mexico. J. R. Scupham.

2820. **Dolomite,** Deep Spring Valley, Inyo County, California.

2821. **Gold and Silver Ore,** Owens' River Mine, Goldopolis District, Inyo County, California.

2822. **Gold Quartz,** New Albany Mine, Tuolumne County, California.

2823. **Gold Quartz,** One hundred and fifty foot level, Conrad Mine, Duncan Hill, one and a half miles west of Auburn, Placer County, California. E. W. Roberts.

2824. **Gold Quartz,** Indian Valley Mine, Indian Valley, Placer County, California. S. A. Raymond.

2825. **Silver Ore,** Gila Silver Mine, Reveille, Nye County, Nevada.

2826. **Gold Ore** (Sulphuret Ore), Knox & Osborn Mine, Calaveras County, California. [Assay value, $5 per ton. There is a 20-stamp mill on the property, with concentration apparatus.] Knox & Osborne.

2827. **Brown Freestone,** Coronado Island. (See No. 2742.) W. A. Winder.

2828. **Garnet in Mica Schist,** Mouth of Stickeen River, Alaska. (See No. 1287.) Wm. Norris.

2829. **Phallus or Pestle,** From the Ranch of Dr. Maxwell, Pope Valley, Napa County, California.

2830. **Quartz Crystals,** Wood River, Idaho.

2831. **Porphyritic Diorite (?),** Wood River, Idaho.

2832. **Enargite,** Monitor, Alpine County, California. Lewis Chalmers.

2833. **Earthy Hematite,** Monitor, Alpine County, California. Lewis Chalmers.

2834. **Rock Specimen,** Wood River, Idaho.

2835. **Silicified Wood.** Captain McDonald.

2836. **Mass of Fossil Shells,** Beach at Monterey, Monterey County, California. J. Z. Davis.

2837. **Bowlder with imbedded Fossil Bones,** Beach at Monterey, Monterey County, California. J. Z. Davis.

2838. **Model of the Sweepstakes Quartz Mill.** A. E. Redstone.

2839. **Model of Howland's Disintegration Riffle.** W. H. Howland.

2840. **Model of Rocking Corrugated Crusher.** David B. James.

2841. **Silver Coin,** Discolored by gases arising from the mud volcanoes, Colorado Desert, San Diego County, California.

2842. **Spider and Eggs,** Supposed to be from the Sandwich Islands. Chas. B. Nichols.

2843. **Ctenizia californica,** California Tarantula.

2844. **Parrot Fish,** Japanese waters. Mrs. Jos. Clements.

2845. **Currency of the United States of Columbia,** 1868. J. Z. Davis.

2846. **Echinoderms,** Pescadero Beach, San Mateo County, California. J. Z. Davis.

2847. **Twelve Samples of Pebbles,** From the beach at Pescadero, San Mateo County, California. J. Z. Davis.

2848. **Pig of Cast Iron,** From the first cast made by the California Iron Company, Sunday, April 23, 1881. Works at Clipper Gap, Placer County, California.

2849. **Bar of Iron,** Showing the change in texture made by combination. Clipper Gap Iron. G. E. Barnes.

2850. **Bar of Clipper Gap Iron,** Showing the change in texture made by combination. G. E. Barnes.

2851. **Fragment of Chilled Carwheel,** Made from Clipper Gap Iron. G. E. Barnes.

2852. **Slag from Iron Furnace,** Clipper Gap, Placer County, California.

2853. **Crystalized Gold,** Sugarman Vein, Sonora, Tuolumne County, California. John H. Neale.

2854. **Ironstone Drain and Sewer Pipe,** Made from California clay. Gladding, McBean & Co.

2855. **Ironstone Sewer Pipe Trap,** Made from California clay. Gladding, McBean & Co.

2856. **Ironstone Watercloset Bowl,** Made from California clay. Gladding, McBean & Co.

2857. **Terra Cotta Vase,** Made from California clay. Gladding, McBean & Co.

2858. **Terra Cotta Chimney Top,** Made from California clay. Gladding, McBean & Co.

2859. **Terra Cotta Chimney Top,** Made from California clay. Gladding, McBean & Co.

2860. **Terra Cotta Water Jar** (Ancient Form), Made from California clay. Gladding, McBean & Co.

2861. **Sample of California Clay** (Pulverized). Gladding, McBean & Co.

2862. **Terra Cotta Flower Pot** (Plain), Made of California clay. Gladding, McBean & Co.

2863. **Terra Cotta Flower Pot** (Ornamental), Made from California clay—three varieties. Gladding, McBean & Co.

2864. **Terra Cotta Vase** (Ancient Form), Made from California clay—two varieties. Gladding, McBean & Co.

2865. **Terra Cotta Cup** (Ancient Form), Made from California clay. Gladding, McBean & Co.

2866. **Terra Cotta Basin for Garden,** Large size, made of California clay. Gladding, McBean & Co.

2867. **Fire Brick,** Made of California clay. Gladding, McBean & Co.

2868. **Gold deposited on the surface of Quartz Crystals,** A most remarkable and interesting specimen, Manzanita Mine, Sulphur Creek, Colusa County, California. Wm. Cherry.

2869. **Cement Gravel with Cinnabar,** One hundred feet from Manzanita Mine, Sulphur Creek, Colusa County, California. Dr. C. B. Hughes.

2870. **Gold Quartz,** Bright Star Mine, Piute Mountain, Kern County, California.

2871. **Gold Quartz,** Macedonian Mine, Kern County, California.

2872. **Cyathophyllum?** (Paleozoic Fossil), Treasure Hill, White Pine County, Nevada.

2873. **Productus** (Carboniferous Fossil), Eureka District and County, Nevada.

2874. **Silver Ore,** Shark Mine, Ward District, White Pine County, Nevada.

2875. **Silver Ore** (Anglesite), Tybo Consolidated Mine, Nye County, Nevada.

2876. **Foot Wall,** Conrad Mine, Duncan Hill, near Auburn, Placer County, California. E. W. and Wm. Roberts.

2877. **Hanging Wall,** Of the Conrad Mine, Duncan Hill, near Auburn, Placer County, California. E. W. and Wm. Roberts.

2878. **Stream Tin,** Durango, Mexico. J. T. McGeoghegan.

2879. **Copper Ore,** Diamond Mine, Low Divide, Del Norte County, California.

2880. **Copper Ore,** Eagle Copper and Silver Mining Company, Quail Hill, Calaveras County, California. F. W. Utter.

2881. **Silver Ore,** Gila Silver Mining Company, Reveille District, Nye County, Nevada.

2882. **Brecciated Rock,** China. J. Z. Davis.

2883. **Gold Quartz** (Sulphuret Ore), Mountain Mine, Nevada City, Nevada County, California.

2884. **Silver Ore,** Martin White Mine, White Pine District and County, Nevada.

2885. **Gold Quartz,** Deadwood Mine, Nevada City, Nevada County, California.

2886. **Magnetite,** Eight or nine miles north of Mesquite Station, San Diego County, California. J. C. McCurdy.

2887. **Red Porphyry,** Eight or nine miles from Mesquite Station, San Diego County, California. J. C. McCurdy.

2888. **Silver Ore,** St. Louis Mine, Pioneer District, Pinal County, Arizona. A. Johnson.

2889. **Silver Ore,** Prospect Mine, Pioneer District, Pinal County, Arizona. A. Johnson.

2890. **Selenite** (Gypsum), Buena Vista, Kern County, California.

2891. **Silver Ore,** Lexington Mine, near Helena, Montana.

2892. **Silver Ore,** Gem Mine, Queen's Creek, Pioneer District, Pinal County, Arizona. A. Johnson.

2893. **Copper Ore,** Mineral Creek, Pioneer District, Arizona. A. Johnson.

2894. **Copper Ore,** Morning Star Mine, Rockland District, Del Norte County, California.

2895. **Silver Ore,** Mountain View Mine, Pioneer District, Arizona. A. Johnson.

2896. **Silver Ore,** Gem Mine, Queen's Creek, Pioneer District, Pinal County, Arizona. (See No. 2892.) A. Johnson.

2897. **Gold Quartz** (Sulphuret Ore), New England Mine, Nevada County, California.

2898. **Silver Ore,** Alice Mine, Pioneer District, Pinal County, Arizona. A. Johnson.

2899. **Silicified Wood,** California. Exact locality unknown. G. W. Gardner.

2900. **Quartz Croppings,** Of Gold Run Mine, Webber Creek, El Dorado County, California. S. A. Coburn.

2901. **Silver Ore,** Leach Mine, Ord District, San Bernardino County, California.

2902. **Silver Ore,** Casochella Mine, Lower California.

2903. **Silver Ore,** Infidel Mine, Bull Run District, Elko County, Nevada.

2904. **Gold Ore,** Bull Run Mine, Bull Run District, Elko County, Nevada.

2905. **Cinchona Bark** (Peruvian Bark). T. P. F. Waller.

2906. **Dividivi,** Cascoloto, Mexico. T. P. F. Waller.

2907. **Clay,** Said to occur in large quantities in Mendocino County, near Point Arena, California. C. L. Ross.

2908. **Gold Quartz,** Grasshopper Mining Company, Mosquito Gulch, Calaveras County, California.

2909. **Dye Stuff,** Used for painting canoes and coloring tapa, by the inhabitants of the Island of Pouynipete (?), South Sea. Wightman Bros.

2910. **Coal,** Panoche Pass. J. C. Winans.

ANALYSIS.

Water	13.73
Volatile Hydrocarbons	31.73
Fixed Carbon	31.54
Ash	23.00
Total	100.00

2911. **Silicified Wood,** California. (See No. 2399.) G. M. Gardner.

2912. **Gold Quartz,** Flag Mine, Brown's Valley, Yuba County, California. C. J. Frank.

2913. **Hornblende,** Folsom, Sacramento County, California. J. Z. Davis.

2914. **Ingot Copper,** From Ludwig Copper Mine, Esmeralda County, Nevada. [At this mine the Water Jacket Furnace is being used on eleven per cent. ore from old dump with success.] Chris. James, Superintendent.

2915. **Thenardite** (Anhydrous Sulphate of Soda), Forty miles from Prescott, Yavapai County, Arizona. William N. Kelly.

2916. **Auriferous Pyrites** (Sulphuret Ore), True Fissure Mine, Devil's Peak Mountain, Placer County, California. Philip Corcoran.

2917. **Silver Ore,** Tower Consolidated Mine, Indian Creek District, Mono County, California. Joseph Wasson.

2918. **Native Silver in Partzite,** Comanche Mine, Blind Springs, Mono County, California. Jos. Wasson.

2919. **Partzite,** Comanche Mine, Blind Springs, Mono County, California. Joseph Wasson.

2920. **Model of the Welcome Gold Nugget,** Found in Ballarat, Victoria, Australia. Weight, 2,166 ounces Troy; value, $41,882.

2921. **Model of the Ural Gold Nugget,** Found in the Ural Mountains, Siberia. Weight, 1,200 ounces Troy. Preserved in Museum of Mining Engineers, St. Petersburgh.

2922. **Model of Gold Nugget,** Found in Oregon Canyon, El Dorado County, California.

2923. **Model of a Nugget of Platinum,** Found in Russia. The largest mass of platinum known.

2924. **Model of a Crystal of Cobaltite** (Sulphides of Cobalt and Arsenic), Found at Tunaberg, Sweden.

2925. **The Chilcat Meteorite.** This very interesting meteorite was purchased by the State Mining Bureau in June, 1881, of Chief "Donawack," or Silver Eye (spelled as pronounced). It was seen to fall by the father of one of the oldest Indians, about one hundred years ago. Locality, Portage Bay, Chilcoot Inlet, Alaska; weight, 1,410 ounces Troy, or about 96¾ pounds avoirdupois. Widmanstattian figures are dimly seen on its outer surface, which are brought out beautifully by the action of acids. The Bureau is indebted to the Northwest Trading Company, and to J. M. Vanderbilt in particular, for negotiating its purchase, and to John Muir for calling attention to it.

2926. **Molybdenite** (Sulphide of Molybdenum), Stanhope, New Jersey. Geological Survey of New Jersey.

2927. **Zincite and Franklinite,** Franklin, Sussex County, New Jersey. Prof. Geo. H. Cook.

2928. **Zincite in Calcite,** Franklin, Sussex County, New Jersey. Prof. Geo. H. Cook.

2929. **Serpentine and Chrysotile,** Montville, New Jersey. Geological Survey of New Jersey.

2930. **Willemite, Zincite, and Franklinite,** Franklin, Sussex County, New Jersey. Prof. G. H. Cook.

2931. **Rhodonite,** Franklin, Sussex County, New Jersey. Prof. G. H. Cook.

2932. **Talc,** St. Lawrence County, N. Y. D. S. Marvin.

2933. **Wollastonite, Sphene, Augite, Zircons,** Etc., Natural Bridge, Jefferson County, New York. D. S. Marvin.

2934. **Zincite** (Ruby Zinc), Franklin, Sussex County, New Jersey. D. S. Marvin.

2935. **Labradorite**, Jefferson County, New York. D. S. Marvin.

2936. **Franklinite**, Franklin, Sussex County, New Jersey. Prof. G. H. Cook.

2937. **Millerite** (Sulphide of Nickel—Needle Crystals in cavity), Orange County, New York.

2938. **Allanite**, Orange County, New York.

2939. **Tourmaline** (Green and Red), Middletown, Connecticut.

2940. **Serpentine** (Precious), Montville, New Jersey. Prof. G. H. Cook.

2941. **Tourmaline** (Brown), St. Lawrence County, New York. D. S. Marvin.

2942. **Magnetite**, Morris County, New Jersey. D. S. Marvin.

2943. **Birdseye Limestone**, Watertown, New York—under the suspension bridge. D. S. Marvin.

2944. **Tephroite and Zincite**, Franklin, Sussex County, New Jersey. Prof. G. H. Cook.

2945. **Tremolite**, St. Lawrence County, New York. D. S. Marvin.

2946. **Aragonite on Hematite**, Antwerp, Jefferson County, New York. D. S. Marvin.

2947. **Petalite**, Boston, Massachusetts. D. S. Marvin.

2948. **Damourite**, Branchville, Conn. D. S. Marvin.

2949. **Tremolite**, New York. D. S. Marvin.

2950. **Verd-Antique Marble** (with Retinalite), Jefferson County, New York. D. S. Dana.

2951. **Calcareous Tufa**, New York. D. S. Marvin.

2952. **Zincite and Franklinite**, Franklin, Sussex County, New Jersey. Prof. G. H. Cook.

2953. **Muscovite**, Pennsbury, Penn. D. S. Marvin.

2954. **Ankerite**, Pennsylvania. D. S. Marvin.

2955. **Magnetite** (Natural Magnet), Dickerson's Mine, Morris County, New Jersey. Prof. G. H. Cook.

2956. **Calcite** (Agaric Mineral, Rock Milk), Cave at Watertown, New York. D. S. Marvin.

2957. **Willemite and Franklinite**, Franklin, Sussex County, New Jersey. Prof. G. H. Cook.

2958. **Molybdenite**, Natural Bridge, Jefferson County, New York. D. J. Marvin.

2959. **Staurolite** (Pink), St. Lawrence County, New York. D. S. Marvin.

2960. **Dolomite**, Jefferson County, New York. D. S. Marvin.

2961. **Augite with Sphene**, Jefferson County, New York. D. S. Marvin.

2962. **Anthophyllite**, Burlington, Connecticut.

2963. **Indian Implement**, Alviso, Santa Clara County, California. (See No. 1368.) Miss Lilly Love.

2964. **Scapolite**, Natural Bridge, Jefferson County, New York.

2965. **Columbite**, Chesterfield, Mass. D. S. Marvin.

2966. **Plumose Mica**, Salsbury, New Hampshire. D. S. Marvin.

2967. **Fluorite** (Fluor Spar), Rosiclare, Illinois. D. S. Marvin.

2968. **Haughite** (?), Edwards, St. Lawrence County, New York. D. S. Marvin.

2969. **Talc**, St. Lawrence County, New York. [Used in paper-making and for the adulteration of paints.] (See No. 2932.) D. S. Marvin.

2970. **Serpentine**, Jefferson County, New York. D. S. Marvin.

2971. **Vivianite** (which has replaced a Fossil Belemnite), Mullica Hill, Gloucester County, New Jersey. Geological Survey of New Jersey.

2972. **Vivianite**, Mullica Hill, Gloucester County, New Jersey. Prof. G. H. Cook.

2973. **Wollastonite**, Natural Bridge, Jefferson County, New York. D. S. Marvin.

2974. **Rubellite** (Red Tourmaline), Middletown, Conn. D. S. Marvin.

2975. **Malachite** (Quartz and Barite), Cheshire, Conn. D. S. Marvin.

2976. **Black Tourmaline** (Schrol), St. Lawrence County, New York. D. S. Marvin.

2977. **Diabanite (?) and Calcite**, In amygdaloid rock, New Brittan, Connecticut. D. S. Marvin.

2978. **Fluorite and Barite**, St. Lawrence County, New York. D. S. Marvin.

2979. **Calcite and Quartz**, Antwerp, Jefferson County, New York. D. S. Marvin.

2980. **Phlogopite**, St. Lawrence County, New York. D. S. Marvin.

2981. **Tourmaline** (Green), Middletown, Connecticut. D. S. Marvin.

2982. **Beryl**, Acworth, New Hampshire. D. S. Marvin.

2983. **Tremolite**, St. Lawrence County, New York. D. S. Marvin.

2984. **Serpentite** (Bowenite), Smithfield, Rhode Island. D. S. Marvin.

2985. **Willemite** (Green), Ogdensburg, Sussex County, New Jersey. D. S. Marvin.

2986. **Graphite**, Moravia, Austria. D. S. Marvin.

2987. **Chlorophane**, Cumberland, Rhode Island. D. S. Marvin.

2988. **Quartz Crystals**, Hot Springs, Arkansas. D. S. Marvin.

2989. **Apatite**, Burges, Canada. D. S. Marvin.

2990. **Stilbite**, Plymouth, Connecticut. D. S. Marvin.

2991. **Quartz** (Rose), With grains of Menaccanite, Saulsbury, New Hampshire. D. S. Marvin.

2992. **Zoicite** (on Quartz), Orange County, Connecticut. D. S. Marvin.

2993. **Beryl in Feldspar**, Haddam, Connecticut. D. S. Marvin.

2994. **Clinochlore**, West Town, Pennsylvania. D. S. Marvin.

2995. **Scapolite and Sphene**, Natural Bridge, Jefferson County, New York. D. S. Marvin.

2996. **Dysluite** (Gahnite), Franklin, Sussex County, New Jersey. Geological Survey of New Jersey.

2997. **Cleiophane** (White Blende), Franklin, Sussex County, New Jersey. Prof. G. H. Cook.

2998. **Chalcophanite**, Sterling, Sussex County, New Jersey. Prof. G. H. Cook.

2999. **Epidote**, Blue Ridge, Virginia.

3000. **Garnetiferous Gneiss**, Jefferson County, New York. D. S. Marvin.

PART SECOND.

PART SECOND.

CLASSIFIED CATALOGUE.

[For Descriptions, Analyses, etc., see corresponding number in Part First.]

CALIFORNIA MINERALS.

470. **Actinolite,** Mariposa Estate, Mariposa County.

1430. **Actinolite,** Contra Costa County.

468. **Andalusite.** Moore's Flat, Mariposa County.

1795. **Andalusite Crystals,** Near the Ne Plus Ultra Mine, Fresno County.

2328. **Andradite** (Garnet), Diamond Mountain, Lassen County.

1648. **Anglesite and Bindheimite,** Modoc Mine, Inyo County.

2168. **Anglesite** (Sulphate of Lead), Modoc Mine, Inyo County.

2. **Aragonite** (Red), Suisun, Solano County.

261. **Aragonite,** Suisun, Solano County.

556. **Aragonite** (Polished), Suisun, Solano County.

575. **Aragonite,** San Luis Obispo County.

1194. **Aragonite,** Gold Run, Placer County.

1872. **Aragonite,** Soda Springs Hotel, Siskiyou County.

2006. **Aragonite** (Onyx Marble), San Luis Obispo County.

2327. **Aragonite** (Onyx Marble), Mineral Spring, six miles above Kernville, Kern County.

2383. **Aragonite,** Twelve miles north of San Luis Obispo.

2740. **Aragonite Crystals,** Candace Copper Mine, Colusa County.

338. **Aragonite,** California Quicksilver Mine, Yolo County.

275. **Aragonite,** New Idria Mine, Fresno County.

1302. **Argentiferous Galena,** Hidalgo Mine, Inyo County.

313. **Argentite** (?), Minietta Belle Mine, Inyo County.

515. **Argillite** (?), Mariposa Tunnel, Mariposa County.

1293. **Asbestus,** Shasta County.

1842. **Asbestus** (See Nos. 1677 and 1678), Near Oroville, Butte County.

2419. **Asbestus,** White River, Tulare County.

449. **Asbestus,** Key's Tunnel, California Mine, Yolo County.

2437. **Asbestus,** Lower part of Mount Bullion, one third of a mile east of Bear Valley, Mariposa County.

156. **Asphaltum,** One half mile from San Luis Obispo.

328. **Asphaltum pierced by Shells,** Los Angeles County.

543. **Asphaltum,** Santa Barbara County.

1167. **Asphaltum,** Mendocino County.

800. **Azurite,** Peck Mine, Copper Hill, Shasta County.

1499. **Azurite** (Carbonate of Copper), **with Galena** (Sulphide of Lead), Union Mine, Inyo District, Inyo County.

1647. **Azurite, Anglesite, and Bindheimite,** Modoc Mine, Inyo County.

1803. **Azurite,** New York District, San Bernardino County.

2169. **Azurite** (Blue Carbonate of Copper), Modoc Mine, Inyo County.

2179. **Azurite** (Blue Carbonate of Copper), Ygnacio Mine, Cerro Gordo District, Inyo County.

2350. **Azurite** (Blue Carbonate of Copper), Ivanpah District, San Bernardino County.

2435. **Azurite, Malachite** (Carbonates of Copper), **and Cuprite** (Oxide of Copper), Iron Mountain, Shasta County.

2318. **Basalt with Zeolite,** Siskiyou County.

110. **Bituminous Shale,** Monterey County.

1740. **Bitumen,** New Almaden Quicksilver Mine, Santa Clara County.

348. **Calcite,** Inyo County.

656. **Calcite,** Point San Pedro, San Mateo County.

1224. **Calcite,** From the Old Chapman Quicksilver Mine, Santa Clara County.

1676. **Calcite with Bitumen,** New Almaden Mine, Santa Clara County.

1741. **Calcite,** New Almaden Quicksilver Mine, Santa Clara County.

1822. **Calcite on Quartz,** Locality uncertain—said to be California.

1862. **Calcite,** Clipper Gap Lime Quarry, Placer County.

2002. **Calcite** (Stalagmite), Quarry of Davis & Cowell, Santa Cruz County.

2003. **Calcite** (White), Quarry of Davis & Cowell, Santa Cruz County.

2004. **Calcite** (Blue Crystalline), Quarry of Davis & Cowell, Santa Cruz County.

2005. **Calcite** (Marble), Quarry of Davis & Cowell, Santa Cruz County.

2162. **Calcite** (Black), Amador County, near Volcano.

2163. **Calcite,** Amador County, near Volcano.

2173. **Calcite** (Carbonate of Lime), Modoc Mine, Inyo County.

2279. **Calcite in Ore of Cinnabar,** Guadalupe Quicksilver Mine, Santa Clara County.

2384. **Calcite,** Inyo County.

2775. **Calcite,** Mad Ox Mine, near Whisky Creek, Shasta County.

657. **Calcite** (Calc Spar), Point San Pedro, San Mateo County, eighteen miles south of San Francisco.

1195. **Carbonate of Magnesia,** Gold Run, Placer County.

2265. **Cat's Eye,** Calaveras County.

808. **Chalcanthite,** Peck Mine, Copper City, Shasta County.

77. **Chalcopyrite,** Mariposa County, near Hornitos.

314. **Chalcopyrite,** Union Mine, Copperopolis, Calaveras County.

2046. **Chalcopyrite,** Campo Seco, Calaveras County.

84. **Chalcedony,** Volcano, Amador County.

546. **Chalcedony,** Murphy's, Calaveras County.

574. **Chalcedony,** Near St. Helena, Napa County.

962. **Chalcedony,** Big Tank, Colorado Desert, San Diego County.

1206. **Chalcedonic Quartz,** Vallecito, Calaveras County.

1397. **Chalcedony,** Soledad Canyon, S. P. R. R., San Bernardino County.

1427. **Chalcedony,** Douglassville, Tuolumne County.

1547. **Chalcedonic Bowlders,** Bodie, Mono County.

2395. **Chalcedony,** Sonoma County.

6. **Chrome Iron,** Litton Springs, Sonoma County.

57. **Chromic Iron,** Twelve miles from San Juan, San Luis Obispo County.

173. **Chromic Iron,** San Jose, Santa Clara County.

174. **Chromic Iron,** Cloverdale, Sonoma County.

176. **Chromic Iron,** Location unknown.

322. **Chromic Iron Ore,** San Luis Obispo.

394. **Chromic Iron,** Five miles east of San Jose, Santa Clara County.

686. **Chromic Iron,** Within six miles of San Francisco.

797. **Chromic Iron,** Near St. Helena, Napa County.

923. **Chromic Iron,** Tuolumne County.

960. **Chromic Iron,** Two miles northwest of Shingle Springs, El Dorado County.

1154. **Chromic Iron,** Los Gatos, Santa Clara County.

1365. **Chromic Iron** (five samples), Within twenty miles of Fresno City, Fresno County.

1402. **Chromic Iron,** El Dorado County, one mile and a half from the railroad.

1578. **Chromic Iron,** Pick and Shovel Mine, six miles northeast from the city of San Luis Obispo.

1876. **Chromic Iron,** Near Jackson, Amador County.

1906. **Chromic Iron,** Seven miles east of Folsom, Sacramento County.

2343. **Chromic Iron,** London Iron Mine, four and a half miles northeast of San Luis Obispo.

2431. **Chromic Iron,** Near Latrobe, El Dorado County.

2493. **Chromic Iron,** Ten miles from Portersville, Tulare County.

2526. **Chromic Iron,** San Mateo County, Pacific slope of the Redwoods.

2768. **Chromic Iron,** Near south fork of the American River, nine miles from Folsom.

2772. **Chromic Iron,** Near Fairfield, Solano County.

2731. **Chromic Iron,** Amador County.

230. **Chrysocolla,** San Diego County.

1433. **Chrysocolla** (Silicate of Copper), Union Mine, Inyo County.

2342. **Chrysocolla** (Silicate of Copper), Forty miles south of Colton, San Diego County.

1263. **Cimolite** (?), Uncle Sam Quicksilver Mine, near Clear Lake, Lake County.

1696. **Cinnabar in Sandstone,** Napa Consolidated Mine, Oat Hill, Napa County.

45. **Cinnabar,** Wall Street Mine, Lake County.

86. **Cinnabar,** Guadalupe Mine, Santa Clara County.

280. **Cinnabar,** Oceanic Quicksilver Mine, San Luis Obispo County.

288. **Cinnabar,** El Dorado County.

317. **Cinnabar,** Phœnix Quicksilver Mine, twenty miles from St. Helena, head of Pope Valley, Lake County.

446. **Cinnabar,** California Quicksilver Mine, Yolo County.

447. **Cinnabar,** Dublin Tunnel, California Quicksilver Mine, Yolo County.

454. **Cinnabar**, Wright Tunnel, California Quicksilver Mine, Yolo County.

487. **Cinnabar**, Eclipse Tunnel, Lake County.

552. **Cinnabar**, Pomposa Mine, Santa Barbara County.

560. **Cinnabar and Quartz**, Quadalupe Mine, Santa Clara County.

122. **Cinnabar and Pyrites**, Guadalupe Mine, near San Jose, Santa Clara County.

570. **Cinnabar**, Guadalupe Mine, Santa Clara County.

2338. **Cinnabar** (rich), From different levels from the surface to 1,200 feet, Guadalupe Quicksilver Mine, Santa Clara County.

924. **Cinnabar in Serpentine**, Tuolumne County.

1109. **Cinnabar and Obsidian**, Sulphur Bank Mine, No. 2, Lake County.

1219. **Cinnabar and Sulphur** (two specimens), Sulphur Bank, Lake County.

1221. **Cinnabar** (three specimens), Sulphur Bank, Lake County.

1275. **Cinnabar with Bitumen** (Aragotite), New Idria Mine, Fresno County.

1728. **Cinnabar, Crystallized** (in vein matter), New Almaden Mine, Santa Clara County.

1729. **Cinnabar** (Native Mercury and Vein Stone), New Almaden Quicksilver Mine, Santa Clara County.

1731. **Cinnabar** (Variety of Light or Vermilion), New Almaden Quicksilver Mine, Santa Clara County.

1730. **Cinnabar** (Dark Variety), New Almaden Quicksilver Mine, Santa Clara County.

1732. **Cinnabar, Bitumen, and Calcite**, New Almaden Quicksilver Mine, Santa Clara County.

2269. **Cinnabar** (Concretionary), Coast Range, Kern County.

367. **Coal** (Ionite), Near Ione, Amador County.

431. **Coal,** Vein four feet thick, two and a half miles from Carmelo Bay, Monterey County.

987. **Coal,** Spinks Coal Mine, Lincoln, Placer County.

1301. **Coal with Gypsum,** Antioch, Contra Costa County.

1358. **Coal** (?), Kelseyville, Lake County.

1800. **Coal,** Thirty-inch vein, Cienega Del Gabian Rancho, San Benito County, near the line of Monterey County.

1959. **Coal,** Black Diamond Mine, Mount Diablo, Contra Costa County.

2334. **Coal,** Santa Clara Coal Mine, twenty miles east of Santa Ana, Los Angeles County.

2378. **Coal,** Cajon Pass, San Bernardino County.

2533. **Coal,** Tejon Pass, Kern County.

2910. **Coal,** Panoche Pass, Fresno County.

928. **Concentrated Sulphurets,** From Talcose Slate, near Sonora, Tuolumne County.

234. **Copper, Vitrous** (Chalcosite), San Diego County.

246. **Copper Glance** (?), Los Angeles County.

816. **Copper** (Carbonate of), Peck Mine, Copper Hill, Shasta County.

1751. **Copper** (Native) **and Azurite,** Telegraph Mine, Hog Hill, Calaveras County.

2331. **Cuprite, Melaconite, Malachite, and Calcite,** Santa Medio (?) Rancho, Coast Range.

2358. **Cuprite,** May Flower Mine, Mineral King District, Tulare County.

2401. **Copper** (Native), Iron Mountain, near Shasta.

806. **Cuprite ?**, (Microscopic Crystals), Peck Mine, Copper Hill, Shasta County.

1770. **Cuprite, Malachite, and Native Copper,** Near Lincoln, Placer County.

2439. **Cuprite and Native Copper,** Candace Mine, Colusa County.

2797. **Cuprite,** Border of Mono Lake, Mono County.

1266. **Dendrites,** Shasta County.

2122. **Dendrites,** Called by the miners "Picture Quartz," Standard Mine, Bodie, Mono County.

2175. **Dolomite** (Carbonate of Lime and Magnesia), Modoc Mine, Inyo County.

2215. **Dolomite,** Guadalupe Quicksilver Mine, Santa Clara County.

2238. **Dolomite** (Resembling Fossil Coral), Morro, San Luis Obispo County.

2524. **Dolomite, Nodule of,** Spur of hills north of Morro Bay, six miles from the ocean, San Luis Obispo County.

2180. **Embolite,** Indiana Mine, near Swansea, Inyo County.

639. **Enargite and Pyrite,** Morning Star Mine, Alpine County.

2832. **Enargite,** Monitor, Alpine County.

804. **Erubesite, Chalcopyrite, and Pyrites,** Copper City, Shasta County.

2805. **Erythrite** (Cobalt Bloom), Kelsey Mine, Compton, Los Angeles County.

439. **Feldspar,** Yosemite Valley, Mariposa County.

445. **Feldspar with Molybdenite,** Yosemite Valley, Mariposa County.

295. **Galena,** San Bernardino County.

673. **Galena,** Santa Catalina Island.

1105. **Galena,** New Coso Mine, Inyo County.

1394. **Galena Ore,** Homer Mill and Mining Company, Mono County.

1653. **Galena,** Modoc Mine, Inyo County.

1880. **Galena in Quartz,** Sunrising Mine, near Aqueduct City, Amador County.

2112. **Galena,** May Lundy Mine, Homer District, Mono County.

243. **Garnets in Mica Schist,** Thirty miles northeast of San Jose, Santa Clara County.

2365. **Garnets,** Peru Mountains, Ventura County.

16. **Gold Quartz,** Sliced section, Good Friday Mine, Placer County.

93. **Gold in Quartz,** Good Friday Mine, Placer County.

96. **Gold in Pyrites** (Cut), Drytown, Amador County.

278. **Gold in Quartz,** Mariposa County.

648. **Gold with Pyrites,** Providence Mine, Nevada County.

1369. **Gold,** From the Bodie mines, Mono County. An alloy of gold and silver, known in mineralogy as "Electrum."

1523. **Gold,** Concentrated from No. 1519—Black sand concentration, Hopland, Mendocino County.

1791. **Gold in Chalcedony (?).**

2429. **Gold in Cement,** Blue Lead, Sierra County.

2754. **Gold Crystal,** Hungry Gulch, near Pine Grove, Amador County.

2792. **Gold Platinum and Sand,** Calpella, Mendocino County.

2853. **Gold** (Crystallized), Sugarman Vein, Sonora, Tuolumne County.

2868. **Gold deposited on the surface of Quartz Crystals,** Manzanita Mine, Sulphur Creek, Colusa County.

1895. **Graphite,** Guerneville, Sonoma County.

929. **Graphite,** Tuolumne County.

2190. **Grossularite and Datholite,** San Carlos, Inyo County.

354. **Gypsum and Selenite,** Lockwood Creek, Ventura County. Sixty miles south of Bakersfield.

362. **Gypsum,** Lockwood Creek, Los Angeles County.

667. **Gypsum,** Monterey County.

1721. **Gypsum** (Selenite), Near Susanville, Lassen County.

2268. **Gypsum,** Near Breckenridge, Kern County.

87. **Hematite,** Ione Valley, Amador County.

1606. **Hematite** (Red), Owen's River Valley, Inyo County.

1860. **Hematite,** Clipper Gap Iron Mine, Placer County.

1861. **Hematite** (Ochrous), Clipper Gap Iron Mine, Placer County.

1896. **Hematite,** Kelsey Tunnel, fourteen miles southeast of Crescent City, Del Norte County.

1937. **Hematite,** From Red Hill, Placer County.

2336. **Hematite,** Alameda County.

2833. **Hematite** (Earthy), Monitor, Alpine County.

548. **Hornblende,** Santa Barbara County.

2263. **Hornblende Rock,** Healdsburgh, Sonoma County.

2913. **Hornblende,** Folsom, Sacramento County.

1347. **Hyalite on Pyrites,** Kelseyville, Lake County.

1514. **Hyalite,** Lake County.

1320. **Hydromagnesite,** Market Street Cut, near Guerrero Street, San Francisco.

982. **Ionite,** Spinks Coal Mine, Lincoln, Placer County.

2093. **Ionite,** Ione Valley, Amador County.

2455. **Iron Ore** (Limonite), Between Jenny Lind and Campo Seco, Calaveras County.

2788. **Iron Ore** (Magnetite), Oroville, Butte County.

2262. **Jamesonite,** Mokelumne Hill, Calaveras County.

94. **Jasper,** Potrero, San Francisco.

551. **Jasper,** Murphy's, Calaveras County.

559. **Jasper,** Near St. Helena, Napa County.

902. **Jasper,** Tuolumne County.

1720. **Jasper,** Near Saucelito, Marin County.

2409. **Jasper showing Glacial Polish** (?), Market Street Cut, San Francisco.

2126. **Jefferisite,** Susanville, Lassen County.

268. **Kaolin,** Kern County.

1095. **Kaolin,** Tuolumne County.

813. **Lenzinite** (?), Chance Mine, Copper Hill, Shasta County.

1229. **Lepidolite,** San Diego.

2773. **Lepidolite,** Twenty miles southwest of Colton, San Bernardino County.

305. **Lignite,** Boney Mine, Vallecito, Calaveras County.

1334. **Lignite,** Carmelo Mine, Monterey County.

2102. **Lignite,** Ione Valley, Amador County.

2379. **Lignite,** Telegraph Hill, San Francisco.

2445. **Lignite,** San Pablo Creek, Contra Costa County.

2513. **Lignite,** Near Bieber, Lassen County.

165. **Limestone** (Calcite), Santa Cruz.

553. **Limonite,** Murphy's, Calaveras County.

1552. **Limonite or Hematite,** Harrington Iron Mine, San Luis Obispo County, four miles southwest of the city of San Luis Obispo.

2267. **Limonite,** Near Visalia, Tulare County.

2397. **Limonite Concretions,** Forest Hill, Placer County.

2790. **Limonite and Psilomelane,** Santa Clara County.

130. **Litharge,** San Bernardino County.

2789. **Lithographic Stone,** Kern County.

423. **Lithomarge,** Alph Mine, Tuolumne County.

2515. **Lithomarge,** Near Big Trees, Calaveras County.

1175. **Magnesia** (?), Port Harford, San Luis Obispo County.

2322. **Magnesite** (Carbonate of Magnesia), Tulare County.

1673. **Magnetic Sand with Pyrites,** Two miles northeast of Jackson, Amador County.

20. **Magnetite,** McCloud River, Shasta County.

65. **Magnetite,** Sutter Creek, Amador County.

117. **Magnetite,** Feather River, near Gold Lake, Plumas County.

301. **Magnetite,** Butte County.

579. **Magnetite,** Yuba County.

689. **Magnetite** (Impure), Green Valley, El Dorado County.

819. **Magnetite,** Tres Pinos, San Benito County.

965. **Magnetite,** Two miles northwest of Shingle Springs, El Dorado County.

1333. **Magnetite,** Six miles from Auburn, Placer County.

1667. **Magnetite,** Near Big Red Ravine, two miles from Coloma, El Dorado County.

1709. **Magnetite,** Iron Mountain Mine, seven miles from Shasta, Shasta County.

1761. **Magnetite,** Potter's Iron Mine, Shasta County.

1938. **Magnetite,** Section 15, township 13 north, range 8 east, M. D. M., Placer County.

1996. **Magnetite,** Coulterville, Mariposa County.

2274. **Magnetite,** Coast Range Mountains, San Benito County.

2886. **Magnetite,** Eight or nine miles north of Mesquite Station, San Diego County.

672. **Malachite, Cuprite, Azurite, and Chrysocolla,** Lost Mine, thirty miles west of the Colorado River, San Diego County.

1295. **Mariposite,** Josephine Mine, "Las Mariposas," Mariposa County.

812. **Melaconite,** Afterthought Mine, Shasta County.

448. **Metacinnabarite,** California Mine, Yolo County.

540. **Metacinnabarite** (Crystallized), California Mine, Yolo County.

2339. **Meteoric Iron** (The San Bernardino Meteorite), Found in Ivanpah Mining District, San Bernardino County.

159. **Mica,** El Dorado County.

2285. **Micaceous Iron** (Hematite), Feather River, near Oroville, Butte County.

1251. **Opalized Wood,** Calaveras County.

1501. **Opal** (Semi), Portersville, Tulare County.

256. **Partzite** (Stibiconite), Kerrick Mine, Benton, Mono County.

2919. **Partzite** (Stibiconite), Comanche Mine, Blind Springs, Mono County.

512. **Picrolite,** Bear Valley, Mariposa County.

555. **Picrolite,** Fort Point, San Francisco.

1318. **Picrolite,** Market Street Cut, near Guerrero Street, San Francisco.

1439. **Picrolite,** Maryland Mine, Grass Valley, Nevada County.

2121. **Picrolite in Serpentine,** Yuba River, Nevada County.

1521. **Platiniridium, Cinnabar** (Mercury, Zircons, etc.), Hopland, Mendocino County.

1522. **Platiniridium** (Concentrated from No. 1519), Hopland, Mendocino County.

1892. **Platiniridium,** Enright Claim, three miles above Trinity Center, Trinity County.

1671. **Psilomelane** (in Quartz), Santa Ana River, Los Angeles County. Mistaken for tin ore.

2451. **Pyrargyrite and Proustite Crystals in Quartz,** Oro Mine, Bodie, Mono County.

351. **Pyrite,** Morning Star Mine, Alpine County.

653. **Pyrite,** Jackson, Amador County.

981. **Pyrite** (with Coal), Spinks Coal Mine, Lincoln, Placer County.

1505. **Pyrite,** Redington Mine, Lake County.

1515. **Pyrite and Hematite,** Occidental Mine, Nevada County.

1649. **Pyrite,** Modoc Mine, Inyo County.

1710. **Pyrite** (with Quartz), Iron Mountain Mine, seven miles from Shasta, Shasta County.

1711. **Pyrite Nodules,** Iron Mountain Mine, seven miles from Shasta, Shasta County.

2027. **Pyrite Crystal,** Patterson Mine, Tuttletown, Tuolumne County.

2032. **Pyrite** (Auriferous), El Dorado County.

2034. **Pyrite** (containing Gold and Silver), Amador County.

2128. **Pyrite,** Mono County.

2348. **Pyrite,** From a cavity in the Sunderland Quicksilver Mine, San Luis Obispo County.

2916. **Pyrite, Auriferous** (Sulphuret Ore), True Fissure Mine, Devil's Peak Mountain, Placer County.

2337. **Pyrolusite,** Santa Rosa, Sonoma County.

918. **Pyrolusite,** Tuolumne County.

2375. **Pyrolusite,** Near Tomales, Marin County.

1170. **Pyrolusite,** Near Angels Camp, Calaveras County.

1811. **Pyrophyllite,** El Dorado County.

13. **Quartz Crystals,** Wyoming Mine, Panamint, Inyo County.

18. **Quartz,** Cut and polished.

34. **Quartz Crystals,** Placer County.

49. **Quartz** (Drusy), Alpine County.

138. **Quartz with Gold** (Hacked), Shasta County.

471. **Quartz** (Hacked), Pine Tree Mine, Mariposa County.

823. **Quartz Crystals,** Mariposa Mine, Mariposa County.

1446. **Quartz** (Breccia), Hirchman's Hydraulic Mines, Nevada County.

1449. **Quartz Crystals coated with Malachite,** Panamint, Inyo County.

1451. **Quartz Crystals,** Calaveras County.

1528. **Quartz and Chalcedony Pebbles** (Selected), Pescadero Beach, San Mateo County.

1792. **Quartz Crystals on Silver Ore,** Bodie Mine, Bodie, Mono County.

2043. **Quartz** (Semi-opal), Eighteen miles southeast of Santa Rosa, Sonoma County.

2164. **Quartz** (Chalcedony), Volcano, Amador County.

2170. **Quartz Crystal,** Modoc Mine, Inyo County.

2316. **Quartz** (Smoky), Siskiyou County.

2446. **Quartz Crystal** (Bowlder of Smoky), North Fork of Feather River, Butte County.

1827. **Roscoelite,** Granite Hill, El Dorado County.

71. **Salt** (Solar), Ten miles from Panamint, Inyo County.

1243. **Salt** (Rock), No. 1, Bay of San Francisco.

1244. **Salt** (Rock), No. 2, Bay of San Francisco.

833. **Saponite** (Rock Soap), Ventura County.

1214. **Saponite,** Santa Barbara County.

8. **Serpentine,** (with Microscopic Section), Peninsula of San Francisco.

488. **Serpentine,** Bear Valley, Mariposa County.

513. **Serpentine,** Three hundred yards northeast of Pine Tree Mine, Bear Valley, Mariposa County.

544. **Serpentine,** Fort Point, San Francisco.

580. **Serpentine,** Yuba County.

1270. **Serpentine,** Market and Guerrero Streets, San Francisco.

1271. **Serpentine and Aragonite,** Market and Guerrero Streets, San Francisco.

1539. **Serpentine** (Polished), Center of Lone Mountain Cemetery, San Francisco.

1540. **Serpentine,** Lone Mountain Cemetery, San Francisco.

1724. **Serpentine** (Schistose), New Almaden Quicksilver Mine, Santa Clara County.

2778. **Serpentine** (Polished), Kelseyville, Lake County.

799. **Selenite,** Santa Barbara.

957. **Selenite,** Near Dos Palmos Station, S. P. R. R., San Diego County.

1260. **Selenite,** Robinson's Ranch, Lake County.

1847. **Selenite** (Satin Spar), White River, Tulare County.

2890. **Selenite,** Buena Vista, Kern County.

2918. **Silver** (Native, in Partzite), Comanche Mine, Blind Springs, Mono County.

11. **Silicified Wood,** Nevada City, Nevada County.

55. **Silicified Wood,** Nevada County.

89. **Silicified Wood,** Downieville, Sierra County.

304. **Silicified Wood,** Columbia, Tuolumne County.

486. **Silicified Wood,** Eclipse Mine, seven miles west of Lower Lake, Lake County.

1171. **Silicified Wood,** Near Angels Camp, Calaveras County.

1193. **Silicified Wood,** Gold Run, Placer County.

1772. **Silicified Wood,** Dutch Flat, Placer County.

1855. **Silicified Wood,** Near Roseville, Placer County.

2167. **Silicified Wood,** Near Volcano, Amador County.

2387. **Silicified Wood,** Burnell Valley, Sonoma County.

1856. **Silicified Wood,** Near Calistoga, Napa County.

2433. **Silicified Wood and Lignite,** Mount Diablo Coal Mine, Contra Costa County.

2177. **Smithsonite and Cerusite,** Modoc Mine, Inyo County.

1633. **Sphalerite** (Zinc Blende), in Calcite, White Chief Mine, Mineral King District, Tulare County.

1632. **Sphalerite** (Zinc Blende), White Chief Mine, Mineral King District, Tulare County.

1891. **Sphalerite** (Zinc Blende), Mineral King District, Tulare County.

2154. **Sphalerite** (Zinc Blende), Dennis Martin's Ranch, four miles west of Menlo Park, San Mateo County.

1130. **Stalactite,** Bass' Cave, Shasta County.

133. **Stalagmite,** Cave City, Calaveras County.

1129. **Stalagmite,** Bass' Cave, Shasta County.

2817. **Stalagmite,** Morro, San Luis Obispo County.

172. **Steatite** (Soapstone), Placer County.

578. **Steatite,** Yuba County.

908. **Steatite,** Eight feet thick, Tuolumne County.

1443. **Steatite,** Fourteen miles below San Pedro, Los Angeles County, on the coast.

1459. **Steatite Wall Rock,** Maryland Mine, Grass Valley, Nevada County.

1654. **Steatite,** Fresno County.

1685. **Steatite** (Soapstone), Two miles northeast of Jackson, Amador County.

1864. **Steatite** (Soapstone), Stockbridge Soapstone Works, near Colfax, Placer County.

2050. **Steatite,** Taylorville, Paper Mill Creek, Marin County.

2270. **Steatite,** Soapstone Mountain, Kern County.

2366. **Steatite** (Soapstone), Tule River, Tulare County.

450. **Stibnite,** Hollister, San Benito County.

1631. **Stibnite** (Sulphide of Antimony), Mammoth Mine, Mineral King District, Tulare County.

2804. **Stibnite,** Near Gilroy, Santa Clara County.

937. **Stibnite,** Kern County.

1473. **Sulphur** (Native), Sulphur Bank, Lake County.

1794. **Sulphurets,** From the Banghart Gold Mine, Shasta County.

352. **Talc,** Seven miles from Mount Hamilton, Santa Clara County.

2276. **Talc in Quartz,** Yosemite Gold Mine, Mariposa County.

438. **Telluric Gold** (Sylvanite), Malone's Mine, Calaveras County.

674. **Telluric Gold Ore,** Murchie Mine, Nevada County.

1893. **Telluric Gold,** Near Jackson, Amador County.

2736. **Thenardite Crystals** (Anhydrous Sulphate of Soda), Inyo County.

1200. **Tincal,** Slate Range, San Bernardino County.

2129. **Tremolite** (Variety of Amphibole), Santa Cruz Mountains, Santa Cruz County.

1807. **Trona** (Carbonate of Soda), Sink of the Mohave, Death Valley, Inyo County.

1108. **Tschermigite,** Sulphur Bank Mine, Lake County.

1806. **Ulexite** (Borate of Lime), Borax Lake, near Grapevine Canyon, Kern County.

2363. **Zircon Sand,** Picayune Flat, Fresno County.

CALIFORNIA ORES—GOLD.

1865. **Gold Quartz,** Alabama Mine, near Penryn, Placer County.

2372. **Ore,** Alabama Mine, near Jamestown, Tuolumne County, Section 9, Township 1 north, range 14 east.

111. **Gold Ore,** Alaska Mine, Sierra County.

456. **Gold Quartz** (Slickensides), Al. Bunnel Mine, Kern County.

462. **Cement with Gold,** America Mine, North San Juan, Nevada County.

465. **Cement with Gold,** Bald Mountain, Forest City, Sierra County.

2346. **Rich Gold Quartz,** Banner District, San Diego County.

2812. **Gold Quartz,** Basco Mine, San Antonio Creek, Calaveras County.

1908. **Gold Quartz,** Basin Slope Mine, Tuolumne County.

293. **Gold Quartz,** Big Blue Lead, Kern County.

909. **Gold Quartz,** Black Mine, Tuolumne County.

380. **Ore,** Blue Ledge, Kelsey Flat, El Dorado County.

1268. **Gold Quartz,** Bodie Mine, Mono County.

1541. **Ore,** From Bodie Mine, Bodie Mining District, Mono County. Gold and Silver.

677. **Ore,** Boston Mine, Latrobe, El Dorado County.

120. **Gold Ore,** Boynton Mine, near Soledad, Monterey County.

2870. **Gold Quartz,** Bright Star Mine, Piute Mountain, Kern County.

1457. **Gold Quartz,** Brunswick Gold and Silver Mining Company, Nevada County.

1278. **Gold Quartz,** Calaveras Mine, Calaveras County.

2425. **Gold Quartz,** Two miles from the Sheep Ranch Mine, Calaveras County.

344. **Gold Quartz,** California Con. Mine, Gold Tunnel, Nevada County.

100. **Gold Quartz,** Cedarberg Mine North, El Dorado County.

581. **Sulphurets,** Centennial, Hite Mine, seven miles north of Fiddletown, El Dorado County.

1456. **Gold Quartz,** Central Mine, three miles north of Haywards, Amador County.

279. **Gold Quartz,** Cerro Gordo Mine, Inyo County.

897. **Gold Quartz in Slate,** Chapparel Mine, Tuolumne County.

2351. **Gold Quartz,** Cherokee Mine, Tuolumne County.

2103. **Gold Quartz,** Coe Mine, Coulterville, Mariposa County.

228. **Gold Quartz,** Colusa County.

388. **Gold Quartz,** Confidence Mine, Fresno County.

2823. **Gold Quartz,** One hundred and fifty foot level, Conrad Mine, Duncan Hill, one and a half miles west of Auburn, Placer County.

1881. **Gold Bearing Sulphurets in Quartz,** Corbet's Creek Mine, Mariposa County.

650. **Gold Quartz,** Crescent Mine, Plumas County.

1285. **Gold Quartz,** Crown Point Mine, Amador County.

2374. **Gold Quartz,** Crystalline Mine, Section 9, Township 1 north, range 14 east, near Jamestown, Tuolumne County.

2029. **Gold Quartz,** Dahlonega Mine, Section 12, Township 16 north, range 11 east, Placer County.

2885. **Gold Quartz,** Deadwood Mine, Nevada City, Nevada County.

2452. **Ore from Delano Gold and Silver Mine,** Deer Creek, Tulare County.

1878. **Gold Bearing Sulphurets,** Doss Mine, two miles from Hornitos, Mariposa County.

566. **Gold Quartz,** Dutch Boy's Mine, near Railroad Flat, Calaveras County.

1502. **Gold Quartz,** El Capitan Mine, North Fork District, Fresno County.

2321. **Ore from El Carmen Mine,** Hite's Cove, Mariposa County.

2138. **Gold Quartz,** Euchre Bar Mine, Section 5, Township 15 north, range 11 east, Placer County. Contact vein.

370. **Rich Gold Quartz,** Fall Creek Mining Company, Nevada County.

974. **Gold Quartz with Free Gold,** Fall Creek Mine, near Emigrant Gap, Nevada County.

1629. **Quartz with Telluric Gold,** Fall Creek Mine, Washington Township, Nevada County.

572. **Gold Quartz,** Farrall Mine, James' Bar, Mokelumne River, Calaveras County.

2912. **Gold Quartz,** Flag Mine, Brown's Valley, Yuba County.

1398. **Gold Quartz,** Fresno Enterprise Mine, five miles from Fresno Flat, Fresno County.

1093. **Gold Quartz,** German Mine, near Placerville, El Dorado County.

320. **Gold Quartz,** Glencoe Mine, Calaveras County.

2769. **Gold Quartz,** Gold Blossom Mine, one thousand feet south of St. Patrick Lode, Placer County.

249. **Gold Quartz with mass of Sulphurets,** Golden Gate Mine, two miles from Sonora, Tuolumne County.

898. **Gold Quartz in Slate,** Golden Gate Mine, Tuolumne County.

466. **Cement with Gold,** Golden Star Mine, Alleghany, Sierra County.

257. **Gold Quartz,** Golden Virgin Mine, Mariposa County.

1874. **Gold Quartz** (Free Gold), Gold Hill, near Coloma, El Dorado County.

2796. **Gold Quartz,** Gold King Mine, three miles southeast of Cherokee Flat, Butte County.

2091. **Gold Quartz,** Gold Run Mine, Section 30, Township 10, range 9, Webber Creek, El Dorado Co.

2900. **Gold Quartz.** Croppings of Gold Run Mine, Webber Creek, El Dorado County.

379. **Gold Quartz,** Good Hope Mine, Peru District, Ventura County.

476. **Gold** (Cement), Con. Grand Mine, Placer County.

2908. **Gold Quartz,** Grasshopper Mining Company, Mosquito Gulch, Calaveras County.

903. **Gold Quartz,** Grizzly Mine, Tuolumne County.

1094. **Gold Quartz,** Gwinn Mine, Calaveras County.

571. **Gold Quartz,** Hackendorn Mine, Blue Mountain, Calaveras County.

1598. **Gold Quartz,** Hanover Mine, Fine Gold Gulch, Fresno County.

2516. **Gold Quartz,** Hayden Hill, Lassen County.

900. **Gold-bearing Rock,** Heslep Mine, Tuolumne County.

919. **Gold Quartz,** Heslep Mine, Tuolumne County.

474. **Gold Quartz,** Hite Mine, Mariposa County.

1393. **Gold-bearing Quartz,** Homer Mill and Mining Company, Mono County.

375. **Gold Quartz,** Humming Bird Mine, Peru District, Ventura County.

1399. **Gold Quartz** (Rich Specimen), With Chalcopyrite, Galena, and Pyrite, Idaho Mine, Grass Valley, Nevada County.

2824. **Gold Quartz,** Indian Valley Mine, Indian Valley, Placer County.

917. **Gold Quartz** (in Granite), Jackson Tunnel, Mariposa County.

1845. **Auriferous Quartz,** Jenny Lind, Calaveras County.

477. **Gold Quartz,** Croppings of Josephine Mine, Bear Valley, Mariposa County.

479. **Gold Quartz,** Josephine Mine, Bear Valley, Mariposa County.

2054. **Ore,** Kanaka Mine, six miles from Downieville, Sierra County.

239. **Gold Quartz,** Kentuck Mine, Long Tom District, Kern County.

272. **Gold Quartz,** Keystone Mine, Amador County.

627. **Gold Quartz,** Keystone Mine (east vein, 557-foot level), Amador County.

629. **Gold Quartz,** Keystone Mine (West side of vein), Amador County.

630. **Gold Quartz,** Keystone Mine (Spring Hill vein, 150 feet south of Patton), Amador County.

631. **Gold Quartz,** Keystone Mine, (south shaft), Amador County.

1843. **Quartz with Free Gold,** Klamath Mine, Siskiyou County.

2826. **Gold Ore** (Sulphuret Ore), Knox & Osborn Mine Calaveras County.

2734. **Ore,** Little Gem Mine, near Jamestown, Tuolumne County.

916. **Gold Quartz,** Louisiana Mine, Tuolumne County.

926. **Gold Quartz,** Lookout Mine, Tuolumne County.

2871. **Gold Quartz,** Macedonian Mine, Kern County.

2774. **Gold Quartz** (Free Gold), Mad Ox Mine, near Whisky Creek, Shasta County.

925. **Gold Quartz,** Mammoth Mine, Tuolumne County.

478. **Gold Quartz,** Mariposa Tunnel, Mariposa County.

832. **Gold Quartz,** Mariposa County.

1564. **Gold Quartz,** McNulty Mine, Electric Mining Co., El Dorado County.

2421. **Rich Gold Quartz,** Mexican Mine, Mariposa Estate, Mariposa County.

2010. **Gold Quartz,** Miller Mine, Washington, Nevada County.

1546. **Gold Quartz,** Mono Mine (400-foot level), Bodie District, Mono County.

675. **Gold Quartz,** Morning Star Mine, Siskiyou County.

2883. **Gold Quartz** (Sulphuret Ore), Mountain Mine, Nevada City, Nevada County.

1833. **Gold Quartz,** Mt. Auburn Mine, near Nevada City, Nevada County.

2803. **Gold Quartz,** Mt. Auburn Mine, Providence Ledge, three miles north of Nevada City, Nevada County.

2427. **Sulphuret Ore,** Murchie Mine, Nevada County, two miles from Nevada City, Nevada County.

144. **Gold Quartz,** Nevada Mine, Nevada County.

259. **Gold Quartz,** Nevada County.

1204. **Gold Quartz,** New Albany Mine, Tuolumne County.

2897. **Gold Quartz** (Sulphuret Ore), New England Mine, Nevada County.

2025. **Gold Quartz,** New Toledo Mine, Tuolumne County.

1422. **Gold Quartz,** Nioma and Wasatch mines of the Homer Mill and Mining Company, Homer District, Mono County.

2454. **Ore,** Olsen Mine, near La Grange, Tuolumne County.

1506. **Gold Quartz,** Oro Mine, Bodie District, Mono County.

2450. **Ore**, Oro Fino Mine, El Dorado County.

2821. **Gold and Silver Ore**, Owen's River Mine, Goldopolis District, Inyo County.

905. **Gold Quartz in Slate**, One hundred feet deep, Patterson Mine, Tuolumne County.

389. **Gold Quartz**, Peru District, Ventura County.

7. **Gold Quartz**, Peter Walter Mine, Placer County.

2329. **Rock very rich in Gold**, Pinacate District, twenty-four miles south of Colton, San Bernardino Co.

390. **Gold Quartz**, Pitman Mine, Fresno County.

644. **Gold Ore**, Premium Mine, Plumas County.

514. **Gold Quartz**, Princeton Mine, Mariposa County.

2026. **Gold Quartz**, Prospect Mine, near Rawhide Ranch, Tuolumne County.

709. **Gold Quartz**, Quartz Glen, six miles from Mokelumne Hill, Calaveras County.

2172. **Gold Quartz**, Royal Arch Mine, six miles south of Modoc Mine, Inyo County.

142. **Gold Quartz**, San Diego County.

325. **Gold Quartz**, Shanghai Mine, near Columbia, Tuolumne County.

906. **Gold Quartz**, Shaw Mine, Tuolumne County.

912. **Gold Quartz**, Soulsby Mine, Tuolumne County.

913. **Gold Quartz** (in Granite), Soulsby Mine, Tuolumne County.

922. **Concentrated Tailings**, Soulsby Mine, Tuolumne County.

1253. **Auriferous Gravel** (three varieties), Spring Valley Mine, Grass Valley, Nevada County.

660. **Gold Quartz,** Standard Mine, Bodie District, Mono County.

1455. **Auriferous Ore,** Star Mine, Tuolumne County.

638. **Gold Quartz,** St. Lawrence Mine, near Ophir, Placer County.

229. **Gold Quartz and Iron Pyrites,** St. Patrick Mine, Placer County.

330. **Gold Quartz,** St. Patrick Mine, Placer County.

2369. **Gold Quartz,** Succedo Shaft, Mariposa Estate, Mariposa County.

1695. **Sulphuret Ore,** Summit City, Sierra County.

899. **Gold Quartz** (in Slate), Sweeny Mine, Tuolumne County.

1453. **Gold Quartz,** Talisman Mine, Amador County.

2398. **Quartz,** Tellurium Mine, Pine Grove, Amador County.

907. **Gold Quartz,** Tuolumne County.

480. **Gold Quartz,** Union Mine, Carson Hill, Calaveras County.

1276. **Quartz Pebble,** Vallecito Mine, Calaveras County.

139. **Ore,** Venando Gold Mine, five miles from St. Helena, Napa County.

332. **Gold Quartz,** Virginia Mine, Grass Valley, Nevada County.

927. **Gold Quartz,** Williams' Mine, Tuolumne County.

CALIFORNIA ORES—SILVER.

2009. **Silver Ore,** Addenda Mine, Bodie, Mono County.

2007. **Silver Ore,** Ahuaga Mine, Tioga District, Summit of Sierra Nevada Mountains, one mile and a half from Mount Dana, Mono County. (See No. 1804.)

43. **Silver Ore,** Al. Bunnell Lode, Kern County.

140. **Silver and Gold Ore,** Al. Bunnell, Kernville, Kern County.

1634. **Silver Ore,** Black Chief Mine, Mineral King District, Tulare County.

1638. **Silver Ore,** Black Wolf Mine, Mineral King District, Tulare County.

95. **Silver Ore,** Calistoga Mine, Napa County.

2119. **Silver Ore,** Caroline Mine, Deep Spring District, Inyo County.

558. **Silver Ore,** Centennial Mine, Inyo County.

805. **Silver Ore,** Chance Mine, Shasta County.

1635. **Silver Ore,** Chuahua Mine, Mineral King District, Tulare County.

2275. **Silver Ore,** Cinderella Mine, Kern County.

67. **Silver Lead Ore,** Comanche Mine, Mono County.

255. **Silver Ore,** Comanche Mine, Mono County.

25. **Silver Ore,** Combination Mine, Desert Springs, Kern County.

2323. **Silver Ore,** Deer Creek, Tulare County.

421. **Silver Ore,** Diana Mine, Benton, Mono County.

2814. **Silver Ore,** Emigrant Mine, Lee District, Inyo County.

1640. **Silver Ore,** Empire Mine, Mineral King District, Tulare County.

2008. **Silver Lead Ore,** French Flag Mine, Swansea District, Inyo County.

2182. **Silver Ore,** Gladiator Mine, Mazourka Canyon, Inyo County.

2053. **Silver Ore,** Golden Crown Mine, head of Bloody Canyon, Mono County.

1121. **Silver Ore,** Grand Mine, Coso District, Inyo County.

1120. **Argentiferous Galena,** Grand Mine, Inyo County.

149. **Silver Ore,** Great Eastern Mine, Panamint, Inyo County.

1098. **Silver Ore,** Great Eastern Mine, San Bernardino County.

1641. **Silver Ore,** Great Mogul Mine, Mineral King District, Tulare County.

148. **Silver Ore,** Great Western Mine, Panamint, Inyo County.

345. **Silver Ore,** Great Western Mine No. 1, Panamint, Inyo County.

319. **Silver Ore,** Great Western Mine No. 2, Panamint, Inyo County.

422. **Silver Ore,** Gray Eagle Mine, Benton, Mono County.

331. **Silver Ore,** Highland Mine, Panamint, Inyo County.

2181. **Silver Copper Ore,** Hirsch Mine, nine miles southeast of Independence, Inyo County.

343. **Silver Ore,** Huron Mine, Panamint, Inyo County.

2191. **Silver Ore,** Indian Scout Mine, Deep Spring Valley, Inyo County.

1885. **Rich Silver Ore,** Iron Mountain, Shasta County.

1793. **Silver Ore,** Jupiter Mine, north of the locality of No. 1792, Bodie, Mono County.

811. **Silver Ore,** Kellenger and Lucy Mine, Copper City, Shasta County.

263. **Silver Ore with Gold,** Near Caliente, Kern County.

275. **Silver Ore,** Kern County.

1580. **Silver Ore** (?), Kidd Mine, six miles easterly from San Luis Obispo.

1637. **Silver Ore,** Lady Emma Mine, Mineral King District, Tulare County.

1639. **Silver Ore,** Lady Franklin Mine, Mineral King District, Tulare County.

2901. **Silver Ore,** Leach Mine, Ord District, San Bernardino County.

961. **Silver, Lead, and Gold Ore,** Lone Star Claim, S. P. R. R. District, San Diego County.

2813. **Silver Ore,** Lucky Jim Mine, New Coso, Inyo County.

2109. **Silver Ore,** May Lundy Mine, Homer District, Mono County.

2078. **Silver Ore,** Mineral Hill, Lake District, Mono County.

236. **Silver Ore,** Minietta Belle Mine, Lookout District, Inyo County.

2517. **Ore,** From Modesto Silver Mine, McGrear Flat, two and a half miles southwest of Sebastopol, Mariposa County.

1651. **Silver Lead Ore,** Modoc Mine, Inyo County.

1652. **Silver Ore,** Modoc Mine, Inyo County.

1581. **Silver Ore (?)**, Mountain Mystery Mine, six miles northeasterly from San Luis Obispo.

2038. **Silver Ore**, Mount Dana Mine, two miles north of Bloody Canyon, Tuolumne County.

72. **Silver Ore**, New Coso Mining District, Inyo County.

73. **Argentiferous Galena**, New Coso Mining District, Inyo County.

74. **Silver Ore**, New Coso Mine, New Coso Mining District, Inyo County.

1104. **Silver Lead Ore**, New Coso Mine, Inyo County.

1119. **Silver Ore**, New York Mine, Inyo County.

1545. **Silver-bearing Limestone**, Noonday Mine, Bodie, Mono County.

1561. **Silver Gold Ore**, Orient Mine, Bodie Mining Co., Mono County.

1585. **Silver Ore**, Oro Mining Company, Bodie, Mono County.

377. **Silver Ore**, Pacific Lode, Peru District, Ventura County.

114. **Silver Ore**, Panamint, Inyo County.

384. **Galena and Silver Ore**, Peru District, Ventura County.

1114. **Silver Ore**, Resting Springs Mine, San Bernardino County.

378. **Silver Ore**, Rose of Sharon Mine, Peru District, Ventura County.

361. **Silver Ore**, San Bernardino County.

1531. **Silver Copper Ore**, Six miles from Lane's Crossing, San Bernardino County.

956. **Silver Ore**, San Francisco Mine, Ivawatt District, San Bernardino County.

687. **Argentiferous Galena,** Searsville, Santa Clara County.

701. **Silver Ore, with Gold, Copper, Iron,** etc., Shasta Mine, Shasta County.

703. **Silver Ore, Antimony, and Copper,** Shasta Mine, Shasta County.

1544. **Argentiferous Limestone,** Sigourney Claim, two and a half miles south of the Standard Mine, Bodie, Mono County.

274. **Silver Ore,** Silver King District, Kern County.

958. **Silver Ore,** Silver Brick Claim, near Dos Palmos, San Diego County.

1636. **Silver Ore,** Silver Wealth Mine, Mineral King District, Tulare County.

1584. **Silver Ore** (?), Soper Consolidated Mine, six miles northeasterly from San Luis Obispo.

104. **Silver Ore,** Tiger Mine, Coso District, Inyo County.

2917. **Silver Ore,** Tower Consolidated Mine, Indian Creek District, Mono County.

2183. **Silver Ore,** Union Mine, twelve miles south of Independence, Inyo County.

1583. **Silver Ore** (?), Victoria Mine, six miles northeasterly from San Luis Obispo.

1579. **Silver Ore** (?), Washington Mine, six miles northeasterly from San Luis Obispo.

1582. **Silver Ore** (?), Whig Mine, six miles northeasterly from San Luis Obispo.

1412. **Silver Ore,** Whiteman Mine, Deep Spring Valley, Inyo County.

2185. **Silver Ore,** Wonder Mine, White Mountains, thirty-five miles north of Independence, Inyo County.

91. **Silver Copper Ore,** Wyoming Mine, Panamint, Inyo County.

1503. **Silver Ore,** Ygnacio Mine, Cerro Gordo District, Inyo County.

2184. **Silver Ore,** Zulu Mine, Deep Spring District, Inyo County.

CALIFORNIA ORES—COPPER.

2442. **Rich Copper Ore,** American Mine, Candace Consolidated Mining Co., Colusa County.

342. **Copper Ore,** Calaveras County.

2438. **Rich Copper Ore,** Candace Mine, Sections 29 and 32, Township 17 north, range 6 west, Colusa Co.

1889. **Copper Ore with Free Silver** (two specimens), Cedar Mine, Nevada County.

801. **Copper Ore,** Copper Hill, Shasta County.

910. **Copper Ore,** Copper Mine—sixty feet deep, Tuolumne County.

2738. **Copper Ore,** Cosumnes Copper Mine, Amador County.

684. **Copper Ore,** Del Norte County.

126. **Copper Ore,** Diamond Mine, Del Norte County.

2880. **Copper Ore,** Eagle Copper and Silver Mining Co., Quail Hill, Calaveras County.

2441. **Rich Copper Ore,** Fortuna Mine, Candace Consolidated Mining Co., Colusa County.

151. **Copper Ore** (two specimens), Great Republic Mine, Mount Diablo, Contra Costa County.

2137. **Copper Ore,** Grizzly Den Mine, San Luis Obispo County.

196. **Copper Ore,** Grizzly Mine, six miles northwest of Healdsburg, Sonoma County.

472. **Copper Ore** (Green Vein), Hamlington's District, Mariposa County.

475. **Copper Ore,** Hunter's Valley, Mariposa County.

685. **Copper Ore,** Ione District, Amador County.

802. **Copper Ore,** Kellenger Mine, Copper Hill, Shasta County.

671. **Copper Ore,** Kentucky Mine, Calaveras County.

2440. **Rich Copper Ore,** Lellia Mine, Candace Consolidated Mining Co., Colusa County.

1656. **Samples of Copper Ore** (with Metallic Copper reduced from it), Mineral Point Lode, thirty miles east of Crescent City, Del Norte County.

2894. **Copper Ore,** Morning Star Mine, Rockland District, Del Norte County.

1771. **Copper Ore** (Chalcopyrite in Quartz), Nickerson Mine, Nevada County.

2047. **Copper Ore,** Nickerson Mine, Nevada County.

691. **Copper Ore,** Noble Mine, Amador County.

809. **Copper Ore,** Peck Mine, Copper City, Shasta County.

118. **Copper Ore,** San Bernardino County.

2344. **Copper Ore,** Twelve miles north of San Luis Obispo.

54. **Copper Ore** (Carbonate Ore), Skaggs' Springs, Sonoma County.

681. **Copper Ore,** Smoke Creek.

700. **Copper Ore,** Surprise Claim, Mount Diablo, Contra Costa County.

1684. **Copper Ore,** Telegraph Mine, Hog Hill, Calaveras County.

2136. **Copper Ore,** St. Katherina Mine, San Luis Obispo County.

CALIFORNIA ORES—QUICKSILVER.

61. **Quicksilver,** Clear Quill Mine, Greenville District, one mile from Great Eastern Mine, Sonoma Co.

2744. **Quicksilver Ore,** Great Eastern Mine, 240-foot level, Sonoma County.

1550. **Quicksilver Ore,** Josephine Mine, San Luis Obispo County.

1551. **Quicksilver Ore,** Liberated Mine, San Luis Obispo County.

180. **Quicksilver Ore,** Los Preitos Mine, Santa Barbara, Santa Barbara County.

1727. **Quartz, Cinnabar, and Vein Matter,** New Almaden Quicksilver Mine, Santa Clara County.

1735. **Roasted Ore,** New Almaden Quicksilver Mine, Santa Clara County.

1739. **Quicksilver,** New Almaden Quicksilver Mine, Santa Clara County.

143. **Quicksilver Ore,** Oakland Mine, Sonoma County.

349. **Quicksilver Ore,** Sulphur Bank Quicksilver Mine, nine miles northwest from Lower Lake, Lake Co.

1261. **Earth** (with Quicksilver), Uncle Sam Quicksilver Mine, Clear Lake, Lake County.

63. **Quicksilver,** Wall Street Mine, Lake County.

1173. **Quicksilver Ore** (Containing Free Mercury and Cinnabar), Wall Street Mine, Lake County.

CALIFORNIA ORES—SUNDRIES.

702. **Antimony Ore,** Hollister, San Benito County.

1520. (A.) **Coarse Portion** (Separated from No. 1519), Black Sand Concentration, Hopland, Mendocino County.

1520. (B.) **Heavy Non-magnetic Portion Black Sand Concentration,** Hopland, Mendocino County.

1520. (C.) **Magnetic Portion Black Sand Concentration,** Hopland, Mendocino County.

1520. (D.) **Light Sand—Black Sand Concentration,** Hopland, Mendocino County.

19. **Iron Ore,** McCloud River, Shasta County. (See No. 1761.)

327. **Iron Concretion,** Bald Hill, Placer County.

1169. **Iron Ore,** Shasta, Shasta County.

1712. **Iron Ore** (Oxide), Mountain Mine, seven miles from Shasta.

915. **Lead Ore** (?), New Coso Mine, Inyo County.

2410. **Ore** (Galena, Blende, and Stibnite), From Dunlap Mine, head of Santiago Canyon, Los Angeles Co.

1901. **Ore containing Nickel** (?), Metallic Mine, near Cisco, Placer County.

1902. **Ore containing Nickel** (?), Chief Mine, near Cisco, Placer County.

467. **Manganese Ore,** Hunter's Valley, Mariposa County.

1533. **Sample of Ore,** Crushed in Model No. 1532.

2373. **Ore,** From the Tulloch Mine, near the Summit, five miles south of Sonora and Mono Road, Tuolumne County.

134. **Tin Ore,** Temescal, San Bernardino County.

235. **Tin Ore,** San Jacinto Mine, Temescal, San Bernardino County.

1524. **Model of Noonday Mine,** Bodie District, Mono County.

CALIFORNIA FOSSILS.

792. **Ammonite,** Cottonwood, Shasta County.

1149. **Ammonite,** North Fork of Cottonwood, Shasta County.

1356. **Ammonite,** Shasta County.

2245. **Arca and Solen,** Monterey County.

2241. **Arca trilimota,** Con., Monterey.

1315. **Fossil Bones,** Santa Barbara.

1948. **Fossil Bones** (Whale?), San Luis Obispo County.

2837. **Bowlder** (with imbedded Fossil Bones), Beach at Monterey, Monterey County.

2216. **Camarophora,** Sp.? (Carboniferous Fossils), Farewell Gap, Tulare County.

2784. **Carcharodon megalodon** (Tooth of Fossil Shark), Tertiary, near Oakland, Alameda County.

1172. **Elephas primagenius** (Cast of Tooth of), Contra Costa County.

1192. **Fossils,** Gold Run, Placer County.

1215. **Fossils,** Santa Ynez Range Mountains, Santa Barbara.

1218. **Fossils,** Santa Cruz, Santa Cruz County.

1330. **Fossils** (in Rock), Shasta County.

1357. **Fossil,** Shasta County.

2048. **Fossils,** Marauga Creek, Contra Costa County.

2335. **Fossils** (from Coal Strata), containing No. 2334, Los Angeles County.

2447. **Fossils which occur with the Coal** (No. 2378), Cajon Pass, San Bernardino County.

2522. **Fossil** (Undetermined), Chorro Rancho, San Luis Obispo County.

1700. **Janira bella** (Tertiary Fossil), San Bernardino.

401. **Fossil Leaves** (18 varieties), Blue Tent Mine, Nevada City, Nevada County.

1325. **Lithomarge** (with Fossil Leaves), Alpha Mine, Table Mountain, Tuolumne County.

1899. **Fossil Leaf,** Near Jackson, Amador County.

2385. **Fossil Leaf,** Tuolumne County.

2426. **Fossil Leaves,** Livermore Valley, Huff's Ranch, Alameda County.

2247. **Lunatia and Solen** (Tertiary), Monterey County.

2243. **Macoma and Nassa,** Monterey.

2252. **Macoma inconspicua,** Br. & Sby. (Tertiary), Martinez, Contra Costa County.

2246. **Macoma nasuta,** Con. (Tertiary), Well at Hotel del Monte, Monterey, Monterey County.

2239. **Mytilus californianus,** Con., Pescadero, San Mateo County.

2248. **Nassa perpinguis,** Hds. (Tertiary), Monterey.

1947. **Fossil Oysters,** Santa Margarita Ranch, San Luis Obispo County.

2355. **Shell of Fossil Oyster,** Livermore Valley, Alameda County.

2424. **Fossil Oyster,** Foot of Mount Diablo, Contra Costa County.

1512. **Paleozoic Fossils,** Highest peaks of the Inyo Mountains, Cerro Gordo District, Inyo County.

1630. **Fossils** (Paleozoic?), Mineral King Mining District, Tulare County.

2523. **Pecten discus** (?), Santa Margarita Rancho, San Luis Obispo County.

2240. **Saxidomus Nuttalli,** Con. (Tertiary), Pale., Cal. Vol. 2. fols. 58–98.

2242. **Saxidomus,** Sp. (?), Eureka, Humboldt County.

1372. **Scutella interlineata** (Post Pliocene), Ocean Beach, near San Francisco.

2735. **Tryonia clathrata,** Stimpson (Tertiary Fossil), Colorado Desert, San Diego County.

1328. **Fossil Wood, S**hasta County.

469. **Fossil Worms,** Market Street Cut, San Francisco.

2258. **Tapes staminea,** Con. (Tertiary), Monterey.

2448. **Fossil Shells** (Pecten?), Eel River, twelve miles from the ocean, Humboldt County.

2836. **Mass of Fossil Shells,** Beach at Monterey, Monterey County.

2244. **Solen,** Sp. (?), Contra Costa County.

CALIFORNIA ROCKS.

1734. **Argillaceous Schist** (Black Alta), New Almaden Quicksilver Mine, Santa Clara County.

490. **Bear Valley Rock Specimens** (21 varieties), Bear Valley, Mariposa County.

1587. **Bear Valley Rock Specimen,** Frenchman's Road, Bear Valley, Mariposa County.

955. **Big Tank Quartz Pebbles,** Near Big Tank, Colorado Desert, San Diego County.

1264. **Bituminous Earth,** Kelseyville Gas Wells, Lake County.

708. **Blossom Rock, piece of,** Bay of San Francisco.

1543. **Bodie Bluff Red Float,** Bodie Bluff, Mono County.

1750. **Bodie Bluff Cap Rock,** Overlaying the depression between Bodie Bluff and Silver Hill, Bodie District, Mono County.

1985. **Bonanza Queen Rock Specimen,** Wall Rock, Bonanza Queen Mine, Fresno County.

2189. **Buhr Mill Stone** (Silicious Breccia), Little Butte, Inyo County.

1970. **Butte Creek Rock Specimen.**

1964. **Calistoga Rock Specimen,** Calistoga, Napa County.

432. **Carmelo Bay Wall Rock of 431,** Two and a half miles from Carmelo Bay, Monterey County.

182. **Cement,** Benicia, Solano County.

183. **Cement,** Niles, Alameda County.

2035. **Cement Rock,** Washington Corners, Alameda County.

2114. **Cement** (California Portland in its Crude State), Before being ground.

2272. **Chalcedony, Sand Rock with,** Ten miles west of Havilah, Kern County.

2869. **Cinnabar, Cement Gravel with,** One hundred feet from Manzanita Mine, Sulphur Creek, Colusa County.

1733. **Cinnabar** (Vein Stone and Alta), New Almaden Quicksilver Mine, Santa Clara County.

1223. **Cinnabar, Rock containing,** Old Chapman Mine, Santa Clara County.

167. **Clay,** Mount Diablo, Contra Costa County.

186. **Clay,** Ione, Amador County.

241. **Clay,** Comanche Mine, Mono County.

563. **Clay** (Ferruginous), Ione Valley, Amador County.

980. **Clay** (Surface), Spinks Coal Mine, Lincoln, Placer County.

984. **Clay,** Underlying coal, Spinks Coal Mine, Lincoln, Placer County.

985. **Clay,** Lying between two sand streaks, Spinks Coal Mine, Lincoln, Placer County.

986. **Clay,** Lying between the coal streaks above the main ledge, Spinks Coal Mine, Lincoln, Placer County.

1332. **Clay,** Duncan Mills, Marin County.

1411. **Clay,** Spinks Coal Mine, Lincoln, Placer County.

1504. **Clay** (Yellow), Mistaken for Native Sulphur, Redington Mine, Lake County.

1773. **Clay** (Ferruginous?), Clipper Gap, Placer County.

1823. **Clay** (Indurated), Corner of Filbert and Leavenworth Streets, San Francisco.

1831. **Clay,** Dutch Creek, twenty miles northeast of Placerville, El Dorado County.

1944. **Clay,** Called by the potters Blue Plastic Clay, near Lincoln, Placer County.

1945. **Clay,** Called by the potters White non-Plastic Clay, near Lincoln, Placer County.

2096. **Clay,** From well at Hotel Del Monte, forty-five feet, Monterey, Monterey County.

2097. **Clay,** From well at Hotel del Monte, ninety-six feet, Monterey, Monterey County.

2098. **Clay,** From well at Hotel del Monte, two hundred and sixteen feet, Monterey, Monterey County.

2117. **Clay** (Black), Stained with Oxide of Manganese (?), Bodie, Inyo County.

2118. **Clay,** Found opposite Independence, Inyo County.

2120. **Clay Slip** (Blue), Dudley Mine, Bodie, Mono County.

2123. **Clay,** Near Jackson, Amador County.

2368. **Clay,** Two miles north of Santa Rosa, Sonoma County.

2861. **Clay** (Sample of California), Pulverized.

2907. **Clay,** Near Point Arena, Mendocino County.

248. **Clay Slate,** Mount Hamilton, Santa Clara County.

473. **Clay Slate** (Bored by Worms), Mono Lake, Mono County.

222. **Cliff House Sedimentary Rock,** San Francisco.

2057. **Clipper Gap Stratified Formation,** Old Lime Kiln, near Clipper Gap, Placer County.

1329. **Comanche Rock Specimen,** About seven miles from Comanche, Calaveras County.

2100. **Conglomerate,** Point Lobos, seven miles southwest of Monterey, Monterey County.

2106. **Conglomerate,** Pebble Beach, Pescadero, San Mateo County.

2876. **Conrad Mine Foot Wall,** Duncan Hill, near Auburn, Placer County.

2877. **Concord Mine, Hanging Wall of,** Duncan Hill, near Auburn, Placer County.

1907. **Contra Costa Rock Specimens** (2, with Pyrites), Tunnel of the Contra Costa Road and Tunnel Company, one hundred and eighty-five feet from the face, Contra Costa County.

1963. **Contra Costa Rock Specimen,** Road from Oakland to Berkeley, Contra Costa County.

2192. **Crysolite** (with Calcite), Near Independence, Inyo County.

2186. **Deep Springs District Rock Specimen,** Inyo County.

2079. **Diabase** (Feldspar, Proxene, and Chlorite), North Pacific Railroad, near Saucelito, Marin County.

35. **Diatomaceous Earth,** Santa Monica, Los Angeles County.

175. **Diatomaceous Earth,** Ione Valley, Amador County.

240. **Diatomaceous Earth,** Los Angeles County.

436. **Diatomaceous Earth,** San Gregorio, San Mateo County.

414. **Diatomaceous Earth,** San Joaquin Valley, seventy miles from Stockton, near San Carlos Ranch, Pacheco Pass, Merced County.

547. **Diatomaceous Earth,** Forty miles north of San Diego, San Diego County.

557. **Diatomaceous Earth** (?), Staple's Ranch, San Joaquin County.

654. **Diatomaceous Earth,** Ten miles north of Petaluma, Sonoma County.

791. **Diatomaceous Earth** (With Fossils, eight varieties), Santa Barbara County.

830. **Diatomaceous Earth,** Monterey County.

1184. **Diatomaceous Earth,** Near Comanche, Calaveras County.

1185. **Diatomaceous Earth,** Port Harford, San Luis Obispo County.

1217. **Diatomaceous Earth,** Santa Barbara County.

1246. **Diatomaceous Earth,** Lost Spring Ranch, Lake County.

1248. **Diatomaceous Earth,** Santa Monica, Los Angeles County.

1283. **Diatomaceous Earth,** Lost Spring Ranch, Lake County.

1284. **Diatomaceous Earth,** Santa Catalina Island.

1331. **Diatomaceous Earth,** Dutch Flat, Placer County.

1742. **Diatomaceous Earth,** Fourteen miles below San Pedro, Los Angeles County.

1832. **Diatomaceous Earth,** Eighteen miles southeast of Santa Rosa, Sonoma County.

2444. **Diatomaceous Earth,** Ventura County.

2459. **Diatomaceous Earth** (?), Near Pinole Station, Contra Costa County.

2511. **Diatomaceous Earth** (Very rich), Graham Canyon, five miles south of Santa Rosa, Sonoma County.

2741. **Diatomaceous Earth,** White outcrop on the Salinas road, Jack's Ranch, near Monterey, Monterey County.

1216. **Diatomite** (?), Santa Barbara County.

1348. **Diluvial Conglomerate** (?), Bay of San Francisco.

1789. **Diorite** (Porphyritic ?), Clipper Gap, Placer County.

1940. **Diorite** (?), Wall Rock of Clipper Gap Iron Mine, Placer County.

1941. **Diorite** (?), Near the bridge, Bear River, Placer County.

1943. **Diorite** (?), Placer County.

2042. **Diorite** (?), Iron Mines near Clipper Gap, Placer County.

2748. **Diorite,** Champion Mine, Providence Belt, Nevada County.

2052. **Diorite** (?), Clipper Gap Iron Mines, Placer County.

2282. **Diorite** (Fine Grained, with Section), Mineral Hill District, Mono County.

2283. **Diorite** (Fine Grained), Mineral Hill, Mono County.

242. **Dolerite,** East wall of Comanche Mine, Mono County.

2820. **Dolomite,** Deep Spring Valley, Inyo County.

2139. **Eureka Bar Mine Vein Matter** (Hanging Wall), Placer County.

2140. **Euchre Bar Mine Vein Matter** (Foot Wall), Placer County.

2141. **Euchre Bar Mine Vein Matter** (Near the Hanging Wall), Placer County.

2143. **Euchre Bar Mine East Country** (Not determined), Placer County.

2144. **Euchre Bar Mine Hanging Wall** (East), Placer County.

2746. **Fruit Vale Rock** (Resembling Halleflinta), Fruit Vale, Alameda County.

2277. **Garnet Sand,** Ravine in Soapstone Mountain, twenty-four miles east of Bakersfield, Kern Co.

2776. **Garnet Rock,** Calpella, Mendocino County.

52. **Gneiss,** Near Sacramento, Sacramento County.

1431. **Gneiss,** Brought to San Francisco on river schooners.

831. **Gold Mountain Mine Rock Specimen,** San Bernardino County.

2415. **Gold Run Mine Rock Specimen** (Foot Wall, at sixty feet), Webber Creek, El Dorado County.

2416. **Gold Run Mine Hanging Wall,** Webber Creek, El Dorado County.

2458. **Gold Run Mine Rock Specimen** (Foot Wall, at surface), El Dorado County.

23. **Granite** (Coarse), Near Sacramento.

214. **Granite,** Newcastle, Placer County.

216. **Granite,** Folsom, Sacramento County.

326. **Granite** (Polished), Rocklin, Placer County.

459. **Granite,** Yosemite Valley, Mariposa County.

1126. **Granite,** Mariposa Mine, Mariposa County.

1867. **Granite,** Rocklin, Placer County.

1884. **Granite** (Micaceous), Near Penryn, Placer County.

1882. **Granite,** Crystal Lake, Summit Valley, Nevada County.

1210. **Gravel,** San Pablo, Contra Costa County.

2280. **Guadalupe Quicksilver Mine Burnt Rock,** Santa Clara County.

2417. **Guadalupe Quicksilver Mine Croppings,** Santa Clara County.

1478. **Idaho Mine Wall Rock** (Horse), Grass Valley, Nevada County.

2188. **Indiana Mine Wall Rock,** Near Swansea, Inyo County. (See No. 2180.)

2187. **Inyo County Rock Specimen,** Found in large masses on the eastern slope of the White Mountains, Inyo County.

567. **Ione Valley Rock Specimen,** Ione Valley, Amador County.

1713. **Iron Mountain Mine Rock Specimen,** Face of Tunnel, seven miles from Shasta, Shasta County.

1097. **Ivawatt District Rock Specimen,** San Bernardino County.

1675. **Jackson, Sand,** From hydraulic washings two miles northeast from Jackson, Amador County. (See No. 1788.)

1984. **Jaspery Rock Specimen,** Monitor, Alpine Co.

1846. **Jenny Lind Wall Rock of Quartz Vein** (No. 1845), Jenny Lind, Calaveras County.

1986. **Kearsage District Rock Specimen** (Ten varieties), Inyo County.

1644. **Kelsey Valley Volcanic Rock,** Lake County.

632. **Keystone Mine Wall Rock and Vein Matter,** Amador County.

633. **Keystone Mine Vein Matter** (With Pyrites), Amador County.

1549. **Las Tables Creek Pacific Magic Polish,** San Luis Obispo County.

198. **Lava,** Mendocino County.

219. **Lava,** Napa County.

383. **Lava** (Compact), Near St. Helena, Napa County.

1694. **Lava** (Basaltic), Near Calistoga, Napa County.

1875. **Lava** (Red), Butte Mountain, near Jackson, Amador County.

2371. **Lava** (?), Near Santa Rosa, Sonoma County.

565. **Limestone,** San Bernardino County.

1863. **Limestone** (Marble), Clipper Gap Lime Quarry, Placer County.

1910. **Limestone** (Hydraulic ?), Found at the residence of Captain J. M. McDonald, San Francisco.

1866. **Limestone** (Marble), Cave Valley, near Auburn, Placer County.

1981. **Limestone** (Fossiliferous), Almaden Consolidated Quicksilver Mining Company, San Luis Obispo County.

1982. **Limestone,** Bridgeport, Mono County.

1983. **Limestone,** Fifteen miles east of Tres Pinos, San Benito County.

2171. **Limestone,** Modoc Mine, Inyo County.

2428. **Limestone** (Weathered, possibly Glacier Grooving), Cave City, Calaveras County.

1257. **Lower Lake Rock Specimen,** Lake County.

2165. **Manganese, Dendritic Oxide of,** Near Volcano, Amador County.

59. **Marble** (White), Fifteen miles from Monterey.

141. **Marble,** Near Angels Camp, Calaveras County.

266. **Marble,** Bear Creek, three miles from Colfax, Nevada County.

267. **Marble,** Abby's Ferry, Tuolumne County.

710. **Marble** (Giallo Antico), Tehachipi, Kern County.

904. **Marble** (White), Tuolumne County.

1939. **Marble** (White), Placer County.

2011. **Marble** (White), Tehachipi, Kern County.

2352. **Marble,** California, exact locality unknown.

2799. **Marble** (Block of Black), Near Central Pacific Railroad, two miles above Colfax, at the end of the high tressel, Placer County.

2807. **Marble,** Half a mile from the railroad depot, Auburn, Placer County.

516. **Mariposa Tunnel Rock Specimen** (2000-foot wall), Mariposa County.

517. **Mariposa Tunnel Rock Specimen** (2100-foot wall), Mariposa County.

519. **Mariposa Tunnel Core of Diamond Drill** (2724-foot point), Mariposa County.

527. **Mariposa Tunnel Rock Specimen** (2928-foot point), Mariposa County.

528. **Mariposa Tunnel Rock Specimen** (2950-foot point), Mariposa County.

529. **Mariposa Tunnel Rock Specimen** (Heading, 2978-foot point), Mariposa County.

1965. **Mark West Rock Specimen** (Three varieties), Near Santa Rosa, Sonoma County.

1479. **Maryland Mine Wall Rock,** Grass Valley, Nevada County.

311. **McCloud River Conglomerate,** Shasta County.

1974. **McCloud River Rock Specimen** (Four varieties), Shasta County.

798. **Mica Schist,** Gold Lake, Plumas County.

1092. **Mica Schist,** Ivawatt District, San Bernardino County.

1749. **Mineral King District Country Rock,** Tulare County.

1968. **Monterey Rock Specimen,** Fifteen miles from Monterey, Monterey County.

1969. **Monterey Rock Specimen,** Fifteen miles from Monterey, Monterey County.

442. **Mount Dana Rock** (Summit), Tuolumne County.

2356. **Mount Diablo, formerly the Highest Point of,** Contra Costa County.

2443. **Mud Volcanoes** (Incrustation), Township 11 south, range 13 east, San Bernardino Meridian, Colorado Desert, San Diego County.

1859. **Napoleonite** (Orbicular Diorite), Rattlesnake Bar, El Dorado County.

1883. **Nevada County Rock Specimen,** Four miles south of Crystal Lake, Nevada County.

1477. **New Almaden Quicksilver Mine Foot Wall,** Santa Clara County.

1723. **New Almaden Quicksilver Mine Green Rock,** Santa Clara County.

1725. **New Almaden Quicksilver Mine Wall Rock,** Santa Clara County.

1726. **New Almaden Quicksilver Mine Wall Rock,** Santa Clara County.

2028. **New Toledo Mine Wall Rock** (See No. 2025), Tuolumne County.

316. **Obsidian** (Banded), Clear Lake, Lake County.

366. **Obsidian,** Glass Mountain, near St. Helena, Napa County.

376. **Obsidian,** Glass Mountain, near St. Helena, Napa County.

481. **Obsidian,** Sulphur Bank Quicksilver Mine No. 2, Lake County.

482. **Obsidian and Sulphur,** Sulphur Bank Quicksilver Mine No. 2, Lake County.

483. **Obsidian,** White Ranch, nine miles west of Lower Lake, Lake County.

484. **Obsidian, Sulphur, and Cinnabar,** Sulphur Bank Quicksilver Mine No. 2, Lake County.

485. **Obsidian,** Occident Mine, Lower Lake, Lake County.

988. **Obsidian,** Rosebaugh Ranch, near Sulphur Bank, Lake County.

992. **Obsidian,** Rosebaugh Ranch, Sulphur Bank, Lake County.

993. **Obsidian and Cinnabar,** Rosebaugh Ranch, Sulphur Bank, Lake County.

1197. **Obsidian,** Near Lower Lake, Lake County.

1207. **Obsidian** (Three varieties), Near Kelseyville, Lake County.

1258. **Obsidian** (With Iron Pyrites, two specimens), Lake County.

1390. **Obsidian** (Volcanic Glass), Mono Lake, Mono County.

1890. **Obsidian,** Sonoma County.

1962. **Ocean Beach Rock Specimen,** Ten miles south of San Francisco.

2745. **Ochre** (Impure Red), McPherson's Claim, Sheep Ranch District, Calaveras County.

1681. **Oil Creek Sedimentary Rock,** San Luis Obispo County.

1722. **Orient Mine Clay Wall,** Orient Mine, Bodie District, Mono County.

2370. **Paint Rock** (So called), Twelve miles from Santa Rosa, Sonoma County.

1115. **Paso Robles Rock Specimen,** Paso Robles, San Luis Obispo County.

1222. **Pebbles,** From the beach at Crescent City, Del Norte County.

1903. **Pebbles,** From the shores of Mono Lake, Mono County.

2271. **Pebbles,** Sebastopol, Sonoma County.

2847. **Pebbles** (Twelve samples), Beach at Pescadero, San Mateo County.

693. **Picrolite,** Amador County.

1971. **Pine Flat Rock Specimen,** Sonoma County.

1526. **Pine Grove Sand** (Containing Gold, Platinum, Zircons, Diamonds?, and Magnetite), Pine Grove, Amador County.

1116. **Pitch Stone,** Paso Robles, San Luis Obispo County.

382. **Peru District Wall Rock,** General character in Peru District, Ventura County.

1942. **Placer County Rock Specimen.**

2808. **Placer County Rock Specimen,** Road between Auburn and the Iron Furnace.

1091. **Porphyry,** Foot wall Standard Mine, Bodie District, Mono County.

1542. **Porphyry** (Argentiferous), Bodie Mine, Bodie Mining District, Mono County.

2887. **Porphyry** (Red), Eight or nine miles from Mesquit Station, San Diego County.

1144. **Port Harford Rock Specimen** (Three varieties), San Luis Obispo County.

530. **Princeton Mine Rock Specimen,** Princeton Mine, Mariposa County.

443. **Pumice Stone,** Mono Lake, Mono County.

959. **Pumice Stone,** Near Dos Palmos, San Diego County.

1645. **Pumice Stone or Volcanic Ash,** Found six hundred yards southerly from the easterly part of Lake Merced, San Francisco County.

1762. **Pumice Stone,** Near Mammoth City, Mono County.

1088. **Quartose** (Altered), **Trachyte, Diorite,** The Feldspar mostly sanidine—hanging wall Standard Mine, Bodie District, Mono County.

1117. **Quartz Breccia,** Paso Robles, San Luis Obispo County.

247. **Quartzite,** Southern part of Los Angeles County.

397. **Quartzite,** Geysers, Sonoma County.

2781. **Quartzite,** Wall Rock Mad Ox Mine, near Whisky Creek, Shasta County. (See No. 2774.)

2104. **Redwood City Sedimentary Rock,** From a well four hundred and seventy-eight feet below the surface, Redwood City, San Mateo County.

1830. **Rock Formation,** In which Roscoelite is found, near Mr. Kimble's house, El Dorado County.

979. **Sand** (White), Spinks Coal Mine, Lincoln, Placer County.

1145. **Sand** (Beach), Port Harford, San Luis Obispo County.

1211. **Sand** (Beach), Monterey.

1212. **Sand** (Beach), Santa Cruz.

1406. **Sand** (Quartz), Spinks Coal Mine, near Lincoln, Placer County.

1519. **Sand** (Black), Concentration from hydraulic washing, Hopland, Mendocino County.

1588. **Sand** (Coarse), From the beach at Pescadero, San Mateo.

453. **Sandstone,** Near San Jose, Santa Clara County.

810. **Sandstone** (Fossiliferous), Near Shasta, Shasta County.

914. **Sandstone,** Eighteen feet thick, Tuolumne County.

1205. **Sandstone Formation,** Saucelito, Marin County.

1486. **Sandstone,** Glenn Mills, San Mateo County.

1518. **Sandstone ?** (Feldspathic), Sedimentary Rock composed of Feldspar, Quartz, Mica, and Hornblende, Telegraph Hill, San Francisco.

2110. **Sandstone** (Weathered), Pescadero, San Mateo County.

2166. **Sandstone,** Eight miles west of Napa City, Napa County.

15. **San Francisco Rock from Serpentine Belt,** San Francisco County.

1961. **San Francisco Rock Specimen,** San Francisco.

434. **San Gregorio Ranch Rock Specimen,** San Gregorio Ranch, San Mateo County.

2376. **Santa Rosa Sedimentary Deposit** (Resembling Diatomaceous Earth), Twelve miles east of Santa Rosa, Sonoma County.

1828. **Sam Simms Mine Rock Formation,** In which Roscoelite was first discovered, Granite Creek, El Dorado County.

178. **San Francisco Sedimentary Rock,** San Francisco.

658. **Scoria,** Point San Pedro, eighteen miles south of San Francisco, San Mateo County.

2142. **Serpentine** (West Country), Euchre Bar Mine, Placer County.

2333. **Serpentine** (Wall Rock), Called "Green Rock," Guadalupe Quicksilver Mine, Santa Clara County.

1960. **Shady Glen Concentrations,** Hydraulic mines, Shady Glen, near Alta, Placer County.

1980. **Shasta County Rock Specimen,** Shasta County.

237. **Slate and Pyrites,** Mariposa Tunnel, 2620-foot point, Mariposa County.

911. **Slate and Granite,** Bodie District, Mono County.

577. **Slickenslides,** Yuba County.

931. **Soaprock** (Five varieties), Ventura County.

1548. **South Belvidere Mine,** Sample of the dividing rock separating the "white cap" from the "brown yellow," South Belvidere Mine, Bodie District, Mono County.

2404. **Stalactites** (?), Deposited by jets of steam at the Mud Volcanoes, San Diego County.

564. **St. Helena Rock Specimen,** St. Helena, Napa County.

659. **Syenite,** Point San Pedro, San Mateo County.

920. **Talcose Slate,** Tuolumne County.

1298. **Talcose Slate** (Gold-bearing), El Dorado County.

441. **Thinolite,** Mono Lake, Mono County.

1595. **Thinolite,** Largely used for lime, Mono Lake, Mono County.

568. **Trachyte,** Near St. Helena, Napa County.

1310. **Tripolite** (Eleven specimens), Santa Barbara.

42. **Tufa,** Kern County.

188. **Tufa,** Santa Cruz County.

814. **Tufa** (Ferruginous), Peck Mine, Shasta County.

1949. **Tufa** (Calcareous), Mahoney Mine, San Luis Obispo County.

2125. **Tufa,** Sulphur Springs, Mono County.

1680. **Tufaceous Limestone** (Thinolite?), Section 30, Township 30 north, range 14 west, Lassen County.

1262. **Uncle Sam Quicksilver Mine** (Casing from north side), Near Clear Lake, Lake County.

1391. **Volcanic Conglomerate,** Mono Lake, Mono County.

2512. **Volcanic Ash** (Allied to Pumice Stone), Eighteen miles from Lodi, Calaveras County.

1570. **Water** (Two samples of Mineral), Cuesta Ranch, San Luis Obispo County.

1572. **Water** (Four samples), From the Arroyo Grande Warm Springs, Santa Manuella Rancho, San Luis Obispo County.

1576. **Water** (Sample of Mineral), Near Bridgeport, Mono County.

1577. **Water** (Sample of Mineral), Anti-Fat Springs, San Bernardino County.

1592. **Water** (Sample of), Mono Lake, Mono County.

1936. **Water,** From a salt spring, Placer County.

2161. **Water** (Salt), From spring, Placer County.

440. **Yosemite Valley Glacier-polished Rock,** Yosemite Valley, Mariposa County.

CALIFORNIA MANUFACTURES.

2115. **Artificial Stone,** California Portland Cement Co.

2791. **Artificial Stone made from Magnesite,** Coyote Creek, near Madrona Station C. P. R. R., Santa Clara County.

1366. **Floating Bricks,** Made from diatomaceous earth, with a small quantity of clay.

2867. **Fire Brick,** Made of California Clay.

2851. **Fragment of Chilled Carwheel,** Made from Clipper Gap Iron.

1659. **Chrome Yellow** (Orange Chromate of Lead), Artificial.

1660. **Chrome Yellow** (Lemon Chromate of Lead), Artificial.

1661. **Chrome Green,** Artificial.

2094. **Coke,** Made from Ionite. (See No. 2093.)

2759. **California Cotton,** Hopetown, Merced County.

1367. **Crucibles,** Wholly of California materials.

1817. **Crude Material,** From the Borax Deposits, San Bernardino County.

2116. **Devitrified Glass.**

2854. **Ironstone Drain and Sewer Pipe,** Made from California Clay.

2855. **Ironstone Sewer Pipe Trap,** Made from California Clay.

2856. **Ironstone Water Closet Bowl,** Made from California Clay.

1658. **Litharge,** Artificial.

1663. **Metallic Paint,** Artificial—Peroxide of Iron.

2806. **Parafine, cake of,** From California Petroleum.

2113. **Portland Cement,** Works at Santa Cruz.

1657. **Red Lead,** Artificial.

428. **Salamander Felting.**

2357. **Sugar from the Sugar Pine, cake of** (Pinus Lambertiana), El Dorado County.

1535. **Sulphate of Copper,** Crystallized.

2857. **Terra Cotta Vase,** Made from California Clay.

2858. **Terra Cotta Chimney Top,** Made from California Clay.

2860. **Terra Cotta Water Jar,** Made from California Clay.

2862. **Terra Cotta Flower Pot** (Two varieties), Made from California Clay.

2864. **Terra Cotta Vase** (Two varieties), Made from California Clay.

2865. **Terra Cotta Cup,** Made from California Clay.

2866. **Terra Cotta Basin for Garden,** Made from California Clay.

1665. **White Lead** (Carbonate of Lead), Two varieties.

1662. **Venetian Red,** Artificial—Peroxide of Iron.

CALIFORNIA METALLURGICAL.

1736. **Adobe** (Two samples), New Almaden Quicksilver Mine, Santa Clara County.

1754. **Antimony, Ingot of,** From California Ores.

152. **Copper Bars,** Great Republic Mine, Mount Diablo, Contra Costa County.

2176. **Crystals,** Found in furnace slag, Modoc Mine, Inyo County.

2848. **Cast Iron, Pig of,** Works at Clipper Gap, Placer County.

2849. **Bar of Iron** (Two samples), Clipper Gap Iron.

429. **Lead Stalagmite,** Cerro Gordo, Inyo County.

1664. **Lead, California Ingot,** Pure.

2838. **Model of the Sweepstakes Quartz Mill.**

2839. **Model of Howland's Disintegration Riffle.**

2840. **Model of Rocking Corrugated Crusher** (Two models).

2922. **Model of Gold Nugget,** Found in Oregon Canyon, El Dorado County.

1946. **Realgar** (Crystalized Orpiment), Arsenic, Oxide of Lead, etc., Melrose Smelting Works, Alameda County.

2841. **Silver Coin** (Colored by gases arising from the Mud Volcanoes), Colorado Desert, San Diego County.

2852. **Slag,** From Iron Furnace, Clipper Cap, Placer County.

1868. **Slag.** From Lime Quarry at Alabaster Cave, Placer County.

1738. **Soot,** From condensers, New Almaden Quicksilver Mine, Santa Clara County.

2281. **Soot,** From condensers, Guadalupe Quicksilver Mine, Santa Clara County.

CALIFORNIA SUNDRIES.

2261. **Adula falcata,** Monterey, Monterey County.

2251. **Barnacles** (Whale), Monterey, Monterey County.

1840. **Cone of Pinus Lambertiana,** Road to Yosemite, Mariposa County.

1998. **Cone of Pinus Sabiniana,** Ridge dividing Monterey and Santa Cruz Counties.

1999. **Cone of Pinus Coulteri,** Monterey County.

2000. **Cone of Pinus Insignis,** Grove at Hotel del Monte, Monterey, Monterey County.

2249. **Cryptochiton stelleri,** Midd., Pescadero, San Mateo County.

2250. **Cryptochiton stelleri, Plates of,** Midd., Pescadero, San Mateo County.

2843. **Ctenizia Californica.**

2846. **Echinoderms,** Pescadero Beach, San Mateo County.

1297. **Echinoderms,** Near Cliff House, San Francisco.

2530. **Gerrhonotus multicarinatus.**

2253. **Kellia la perousii,** Desh., Monterey, Monterey County.

2332. **Lick Ball.**

1212. **Lophortyx Californicus** (California Quail), Shaw, full grown male.

2528. **Octopus punctatus,** Gabb, Bay of San Francisco.

2134. **Orca Gladiator or Whale Killer, Jaws of,** Body twenty or thirty feet long, Bay of Monterey.

2254. **Parapholas Californianus, Syphon Tube of,** Monterey, Monterey County.

2255. **Parapholas Californianus,** Monterey, Monterey County.

2259. **Petricola carditoides,** Monterey.

2257. **Pholadidea ovoidea,** Eureka, Humboldt County.

1148. **Pholas, Rock bored by,** Port Harford, San Luis Obispo County.

2132. **Pina sacata,** Variety of P. nuttalli.

2264. **Pipe, Section of,** Nearly filled with Carbonate of Lime, Frink's Spring, Colorado Desert, San Diego County.

1894. **Rock bored by Mollusca,** Monterey County.

2260. **Rupellaria lamellifera,** Con., Monterey, Monterey County.

964. **Shells,** Colorado Desert, San Diego County.

2256. **Tubes of Toredo xylotrya,** Monterey.

2001. **Ligament of Spinal Column of a Whale,** Monterey Bay, Monterey County.

2345. **Wire used in firing the gun at Fort Point, Portion of the,** On the occasion of the driving the last spike in the Trans-continental Railroad, May 10, 1869.

2278. **Wood,** Magalia Gold and Silver Mine, near Dogtown, Butte County.

CALIFORNIA ETHNOLOGY.

1370. **Arrow Head,** From the north bank of the Novarro River, Mendocino County.

1611. **Arrow Heads of Obsidian,** Margin of Clear Lake, Lake County.

1760. **Arrow Head of Obsidian,** Mendocino County.

2068. **Arrow Heads,** Found near Point Concepcion, Santa Barbara County.

2076. **Arrow Heads of Obsidian,** Mokelumne River, Sixteen miles north of Stockton.

2756. **Bundle of Arrows,** Owens River Valley, Inyo County.

1613. **Bone** (Split to extract the marrow), Indian mound, near Calistoga, Napa County.

1768. **Bow and Arrows,** Yuma Indians.

2135. **Human Cranium,** Taken from an Indian mound, twenty-five miles below the city of Sacramento (Runyon's Ranch), near the river.

1400. **Hammer, Stone,** Little York Mining and Water Company, Nevada County.

1805. **Hammer, Stone,** San Luis Obispo County.

2230. **Hook, Stone,** Hooktown or Springville, Humboldt County.

391. **Indian Implement,** Table Mountain, Calaveras County.

1368. **Indian Implement,** Found half a mile southwest of Alviso, Santa Clara County.

1766. **Indian Implement** (?), San Luis Obispo County.

2320. **Indian Implement,** Plano, Tulare County.

2963. **Indian Implement,** Alviso, Santa Clara County. (See No. 1368.)

1609. **Knives of Obsidian,** Margin of Clear Lake, Lake County.

2758. **Lance Head,** Woodland, Yolo County.

1764. **Mortar, Indian,** San Luis Obispo County.

2755. **Mortar, Indian,** Exact locality unknown.

1601. **Pestle, Stone,** Near Calistoga, Napa County.

1765. **Pestle, Indian,** San Luis Obispo County.

2743. **Phallic Symbol,** Near Pescadero, San Mateo County.

2829. **Phallus or Pestle,** Ranch of Dr. Maxwell, Pope Valley, Napa County.

2362. **Pipe Bowl, Indian,** Menlo Park, San Mateo County.

2069. **Scraper** (?), Near Point Concepcion, Santa Barbara County.

1610. **Spear Heads of Obsidian,** Margin of Clear Lake, Lake County.

2067. **Spear Points,** Near Point Concepcion, Santa Barbara County.

1763. **Indian Cooking Vessel,** San Luis Obispo County.

2525. **Stone Vessel,** Cut from a solid piece of Steatite or Soapstone, Cajon Pass, on Coyote Creek, San Bernardino County.

1605. **Silver Watch Case,** Found seven feet under ground, on the banks of Feather River, five miles below Oroville, Butte County.

NEVADA MINERALS.

2414. **Agate, Quartz, Crystals, and Amethyst,** Near Palisades, Eureka County.

2739. **Alum and Sulphur,** Teel's Marsh, Esmeralda County.

17. **Aragonite,** White Pine, White Pine County.

1886. **Aragonite,** From a deposit in the bed of a stream near Aurora, Esmeralda County.

1900. **Aragonite,** Day Silver Mine, Lincoln County.

2386. **Aragonite,** Found in a cave near Buffalo Salt Marsh near Reno, Washoe County.

2105. **Azurite** (Blue Carbonate of Copper), Bluebell Copper Mine, Railroad District, Elko County.

1181. **Calc Spar,** Bunker Hill.

27. **Calcite,** White Pine, White Pine County.

634. **Calcite Crystals,** Justice Mine, Comstock Lode Virginia, Storey County.

1440. **Calcite Crystals,** Humboldt County.

1188. **Calcite,** Eastern Nevada.

1628. **Calcite,** Comstock Lode, Virginia, Storey County.

1213. **Carbonate of Soda,** Ragtown Lake, Churchill County.

340. **Carbonized Wood,** Sutro Tunnel, Storey County. (See No. 321.)

12. **Cerargyrite** (Horn Silver), Eberhart Mine, White Pine District, White Pine County.

2107. **Chalcedony** (Quartz), Aurora, Esmeralda County.

1078. **Chrysocolla,** Alkaline Mining Company, Esmeralda County.

106. **Cinnabar,** Steamboat Springs, Washoe County.

738. **Clay** (Blue), Eureka Mine, Eureka County.

1350. **Clay** (Red), Baltimore Consolidated Mine, Comstock Lode, Storey County.

1351. **Clay,** Baltimore Consolidated Mine, Comstock Lode, Storey County.

2449. **Clay,** Battle Mountain, Lander County.

399. **Copperas?** (With Turquoise), Turquoise Ledge, Esmeralda County.

302. **Cuprite,** Humboldt County.

368. **Cuprite,** Near Battle Creek, Columbia District, Humboldt County.

968. **Cuprite,** Roanoke Mine, Battle Mountain, Lander County.

1801. **Cuprite, Malachite, Calcite, Native Copper, and Limonite,** Victoria Mine, Kingsley Mining District, near the line of Utah, Elko County.

41. **Diallogite,** Austin, Lander County.

425. **Galena,** Montezuma Mine, Esmeralda County.

451. **Galena, Pyrites, and Quartz,** Battle Mountain, Lander County.

726. **Galena,** Eureka Mine, Eureka County.

785. **Galena** (Iron), Eureka Mine, Eureka County.

1752. **Galena and Pyrite,** White and Shiloah Mine, Lander County.

1877. **Galena** (Fine Grained), Groom District, Lander County.

154. **Garnets,** Robinson District.

252. **Gay Lussite,** Soda Lake Churchill County.

289. **Gay Lussite on Branch,** Soda Lake, Churchill County.

550. **Graphite,** Six miles from Carson City, Ormsby County.

1460. **Graphite** (Impure), Near Carrondalet.

103. **Grossular Garnet,** Peavine District, Washoe County.

2330. **Gypsum** (Alabaster), Storey County.

2770. **Gypsum and Sulphur,** Esmeralda County. (See No. 2739.)

283. **Hematite** (Vein Matter), Grand Prize Mine, Tuscarora, Elko County.

1405. **Hubnerite** (Tungstate of Manganese), Enterprise Mine, Mammoth District, Nye County.

1790. **Hematite** (Micaceous), Said to occur in large quantities, New White Plains, Churchill County.

772. **Kaolin** (Like Quartzite), Foot Wall No. 23, Eureka Mine, Eureka Connty.

10. **Kustelite,** Gould and Curry Mine, Virginia.

285. **Melaconite,** Rabbit Hole Range, Humboldt County.

739. **Mimetite and Arsenite of Iron,** Eureka Mine, Eureka County.

775. **Mimetite and Galena,** Eureka Mine, Eureka County.

2231. **Mineral Soap** (So called), Elko, Elko County.

754. **Molybdate of Lead (?) and Galena,** Eureka Mine, Eureka County.

1643. **Molybdenite,** Tem Pahute District, Lincoln Co.

694. **Pyrargyrite,** Star Mine, Battle Mountain, Lander County.

969. **Pyrargyrite,** Lewis District.

1177. **Pyrargyrite,** Savage Mine, Austin, Lander County.

2030. **Pyrites** (Pyrite), Battle Mountain, Lander County.

60. **Quartz Concretion,** Esmeralda County.

636. **Quartz Crystals,** Silver Monarch Mine, Centennial District, Humboldt County.

647. **Quartz Crystals, Group of,** Silver Monarch Mine, Humboldt County.

1152. **Rock Salt,** Silver Peak, Esmeralda County.

2049. **Rock Salt,** Southwestern Mines, St. Thomas, seven miles from the Colorado River.

1180. **Silicified Wood,** Mammoth District.

1435. **Silicified Wood,** Reno, Washoe County.

1746. **Silicified Wood,** Black Rock.

1187. **Stetefeldtite,** High Bridge Mine, Nye County.

66. **Sulphur,** Humboldt County.

109. **Sulphur,** Steamboat Springs, Washoe County.

294. **Sulphur,** Pacific Sulphur Company, near Humboldt, Humboldt County.

665. **Sulphur** (Crude), Pacific Sulphur Company, near Humboldt, Humboldt County.

1155. **Sulphur,** Smoky Valley.

1076. **Sulphur** (Native), Steamboat Springs, Washoe County.

1137. **Talc,** Delano District, Elko County.

2040. **Thenardite** (Anhydrous Sulphate of Soda), Teel's Marsh, Esmeralda County.

358. **Tourmaline**, Near Battle Creek, Columbia District, Humboldt County.

2039. **Trona, Thenardite, and Salt**, Teel's Marsh, Esmeralda County.

260. **Turquoise**, Columbus, Esmeralda County.

170. **Ulexite** (Borate of Lime), Humboldt County.

936. **Ulexite**, Near Columbus, Esmeralda County.

662. **Wollongongite ?** (With Fossils), Near Elko, Elko County.

1593. **Wulfenite**, Eureka Consolidated Mine, Eureka, Eureka County.

747. **Wulfenite**, K. K. Mine, Eureka, Eureka County.

1143. **Wulfenite**, Tecoma Mine, Elko County.

NEVADA ORES—GOLD.

2904. **Bull Run Mine**, Bull Run District, Elko County.

346. **Corona Mine Gold Quartz**, Humboldt Station, Humboldt County.

2033. **Golden Fleece Mine Auriferous Pyrites (?)**, Pea Vine District, Washoe County.

121. **Keeney Mine Gold Ore.**

127. **Railroad District Gold Quartz.**

NEVADA ORES—SILVER.

1450. **Alexandria Mine Silver Copper Ore,** Grantsville, Nye County.

1869. **Amy Bond Mine,** Tem Piute District, Lincoln County.

643. **Ayres & Hopkins Mine,** Carson City, Ormsby County.

145. **Badger Con. Mine,** Elko County.

1343. **Baltimore Consolidated Mine,** Comstock Lode, Storey County.

2412. **Barcelona Mine,** Spanish Belt, Nye County.

80. **Belmont Mining Company,** Nye County.

1879. **Betty O'Neal Mine,** Lander County.

1563. **Brophy Mine,** Flowery District, Storey County.

1670. **Bullion Mine Silver Lead Ore,** Montezuma District, Nye County.

297. **California Mine,** Comstock Lode, Virginia, Storey County. (1600-foot level.)

2324. **Candelaria District,** Esmeralda County.

640. **Centennial District,** Humboldt County.

135. **Chloride Flat,** Newfoundland District.

1136. **Clipper Mine,** Goose Creek District, Elko County.

292. **Consolidated Virginia Mine,** Virginia, Storey County.

400. **Consolidated Virginia Mine Rich Silver Ore,** Virginia, Storey County.

1277. **Consolidated Virginia Mine,** Comstock Lode, Virginia, Storey County.

2453. **Corcoran Mine,** Walker River Range, Esmeralda County.

1458. **DeFrees Mill and Mining Company,** Tuscarora, Elko County.

146. **Devils Gate District,** Lyons County.

30. **Diana Mine,** Austin, Lander County.

1559. **Eagle Mine Silver Lead Ore,** Lander County.

822. **East Alta,** Silver City, Storey County.

1566. **Eberhardt Mine Rich Silver Ore,** White Pine County.

113. **El Dorado Mine,** White Pine District, White Pine County.

1139. **Eliza Mine,** Delano District, Elko County.

273. **Elko Silver and Copper Ore,** Near Elko, Elko County.

736. **Eureka Mine Silver Lead Ore,** Eureka County.

742. **Eureka Mine Low Grade Ore,** Eureka County.

771. **Eureka Mine Black Carbonate Ore,** Eureka County.

433. **Fitzhugh Mine,** Oneita, Esmeralda County.

68. **Geddes & Bertrand Mine,** Near Eureka, Eureka County.

1140. **Genesee Mine.**

2881. **Gila Silver Mining Company,** Reveille District, Nye County.

2359. **Good Hope Mine** (Proustite), Elko County.

1138. **Goose Creek District,** Elko County.

164. **Gould & Curry Mine,** Virginia, Storey County.

281. **Grand Prize Mine,** Tuscarora, Elko County.

2903. **Infidel Mine,** Bull Run District, Elko County.

750. **Jackson Mine Silver Lead Ore with Wulfenite,** Eureka, Eureka County.

755. **Jackson Mine,** Eureka, Eureka County.

1444. **Jones & Kinkead Mine,** Pyramid District, twenty-eight miles northeast of Reno, Roop County. (?)

2434. **Jones & Kinkead Mine Red Ore,** Pyramid Lake District, Roop County (?).

669. **Justice Mine,** Comstock Lode, Virginia, Storey County.

730. **K. K. Mine,** Eureka, Eureka County.

744. **K. K. Mine Silver Lead,** Eureka, Eureka County.

745. **K. K. Mine Quartz Ore,** Eureka, Eureka County.

757. **K. K. Mine Silver Lead Ore,** Eureka, Eureka County.

766. **K. K. Mine Low Grade Ore,** Eureka, Eureka County.

2815. **King Mine Silver Lead Ore,** Hamilton, White Pine County.

1569. **Kaleseed Mine,** Old Battle Mountain, Lander County.

14. **Leopard Mine Rich Silver Ore,** Cornucopia District, Elko County.

1560. **Lime Point Mine Silver Copper Ore,** New Boston Consolidated Mining Company, Esmeralda County.

395. **Lodi Mine** (Two specimens), Silver Peak, Esmeralda County.

2108. **Magenta Mine,** Cortez District, Eureka County.

29. **Manhattan Mine**, Austin, Lander County.

1142. **Mantic Mine.**

661. **Mine adjoining the Duncan Mine** (Native Silver), Marseilles District, Elko County.

2884. **Martin White Mine**, White Pine District and County.

1565. **Mexican Union Mine**, Esmeralda County.

1186. **Moody Mine Silver Lead Ore**, Delano District, Elko County.

1707. **Morning Star Mine**, Pittsburgh District, Lander County.

1127. **Moscow Mine**, Goose Creek District, Elko County.

1133. **Moscow Mine**, Tuscarora District, Elko County.

1156. **Mountain City Mine** (Four specimens), Cope District, Elko County.

1481. **Mount Potosi Mine**, Columbus District, Esmeralda County.

1669. **Nevada Mine Silver Lead Ore**, Montezuma District, Nye County.

1567. **North Bonanza Mine**, Flowery District, Storey County.

1683. **Northern Belle Mine** (Very rich in Chloride of Silver), Esmeralda County.

31. **North Star Mine**, Austin, Lander County.

83. **Ophir Mine**, Comstock Lode, Virginia, Storey County.

28. **Oregon Mine**, Austin, Lander County.

2111. **Original Baltic Mine**, Eureka County.

1141. **Oswego Mine Silver Lead Ore.**

153. **Overman Mine** (Wire Silver), 400-foot level, Virginia, Storey County.

1586. **Parole Mine,** Lewis District, Lander County.

1354. **Paradise Valley Silver Ore.**

81. **Peytona Mine,** Comstock Lode, Virginia, Storey County.

826. **Pontiac Mine,** Silver City, Storey County.

1189. **Providential Mine,** Austin, Lander County.

1190. **Raymond & Ely Mine Silver Lead Ore,** Lincoln County.

1511. **Raymond & Ely Mine Silver Lead Ore** (Principally Anglesite or Sulphate of Lead), Lincoln County.

1745. **Richmond Consolidated Mine,** Comstock Lode, Virginia, Storey County.

75. **Rye Patch Mine,** Humboldt County.

2794. **San Francisco Mine,** Washington District, Esmeralda County.

1178. **Sankey Mine Silver Lead Ore,** Delano District, Elko County.

1132. **Saturn Mine Silver Lead Ore,** Delano District, Elko County.

668. **Schriber Mine,** West Walker Road, Esmeralda County.

2874. **Shark Mine,** Ward District, White Pine County.

1441. **Sierra Nevada Mine** (2200-foot level), Comstock Lode, Virginia, Storey County.

128. **Silver Belle Mine,** Newfoundland District.

1111. **South Barcelona Mine,** Nye County.

1303. **Star Mine,** Cherry Creek District.

2456. **Star Mine** (Galena and Blende), Walker River Range, Esmeralda County.

642. **Stock Broker Mine,** Shoshone District.

825. **Succor Mine,** Comstock Lode, Virginia, Storey County.

645. **Sullivan Mine Trachyte,** Gold Hill, Storey County.

652. **Sullivan Mine Vein Matter,** Gold Hill, Storey County.

218. **Sutro Tunnel** (From ledge 112 feet wide), Storey County.

2875. **Tybo Consolidated Mine** (Anglesite), Nye County.

1279. **Utah Mine Wall Rock,** Comstock Lode, Virginia, Storey County.

1708. **Veritas Mine,** Old Battle Mountain, Lander County.

1568. **Victor Mine,** Columbus District, Esmeralda County.

1179. **Washington District Argentiferous Galena,** Lander County.

82. **Ward Beecher Mine,** White Pine, White Pine County.

85. **Yellow Jacket Mine,** Comstock Lode, Virginia, Storey County.

NEVADA ORES--COPPER.

1081. **Alkaline Mining Company,** Esmeralda County.

1082. **Alkaline Mining Company** (Copper and Cobalt Ore), Esmeralda County.

971. **Battle Mountain,** Lander County.

2232. **Blue Bell Mine Chrysocolla,** Railroad District, Elko County.

1596. **Columbia Lode,** Eureka Mine, Puebla or Hot Springs District, Humboldt County.

967. **Lodi Mine,** Battle Mountain, Lander County.

973. **Mound Mine,** Battle Mountain, Lander County.

972. **Tuscarora Mine,** Battle Mountain, Lander County.

561. **Walker River Ore,** Esmeralda County.

NEVADA ORES—SUNDRY.

573. **Cobalt** (?), Hardwick Mine.

751. **Iron and Manganese,** K. K. Mine, Eureka, Eureka County.

761. **Iron Ore,** Eureka Mine, Eureka County.

696. **Lead Ore,** Miser's Dream Mine, White Pine District and County.

1071. **Nickel** (?), **Cobalt, and Copper Ore,** Alkaline Mining Company, Esmeralda County.

1360. **Nickel and Cobalt Ore,** Columbus, Esmeralda County.

NEVADA FOSSILS.

1134. **Caledonia Ground** (Stems of Encrirites), Elko County.

2233. **Carson Fossil Shells,** State Prison Grounds, Ormsby County.

2236. **Carson Fossil Ivory,** State Prison Grounds, Ormsby County.

2237. **Cast of a portion of Tusk of an Elephant** (?), Carson State Prison Grounds, Ormsby County.

2873. **Eureka District produstus** (Carboniferous Fossil), Eureka District and County.

541. **Mitchell Coal Mine productus,** Twenty-three miles from Eureka, Eureka County.

549. **Mitchell Coal Mine Fossils,** Twenty-three miles from Eureka, Eureka County.

1174. **Mitchell Coal Mine Paleozoic Fossils,** Twenty-three miles from Eureka, Eureka County.

1131. **Montello Range productus,** Elko County.

1135. **Montello Range Paleozoic Fossils,** Elko County.

2872. **Treasure Hill cyathophyllum ?** (Paleozoic Fossil), White Pine County.

NEVADA ROCKS.

1335. **Baltimore Consolidated Mine West Country Rock,** Comstock Lode, Storey County.

1336. **Baltimore Consolidated Mine Clay, Porphry, and Quartz,** Comstock Lode, Storey County.

1337. **Baltimore Consolidated Mine Rock Specimen,** Comstock Lode, Storey County.

1339. **Baltimore Consolidated Mine West Formation,** Comstock Lode, Storey County.

1340. **Baltimore Consolidated Mine West Country Rock** (Going east), Comstock Lode, Storey County.

1341. **Baltimore Consolidated Mine West Formation,** Comstock Lode, Storey County.

1345. **Baltimore Consolidated Mine West Country Rock** (Going east), Comstock Lode, Storey County.

1454. **Belcher Mine Wall Rock,** Comstock Lode, Storey County.

132. **Black Dyke,** East wall Comstock Lode, Storey County.

1529. **Black Sand** (Composed of Quartz and Magnetite with Zircons).

192. **Crown Point Mine Slickensides,** Gold Hill, Storey County.

1353. **Crown Point Mine Rock Specimen,** Comstock Lode, Storey County.

1083. **Diorite** (Mounted for the microscope), Near old Virginia Claim, Comstock Lode, Storey County.

336. **Diorite,** Crosscut from C. C. Shaft, Consolidated Virginia Mine, Virginia, Storey County.

1870. **Desert Springs Obsidian,** Tem Piute District, Lincoln County.

1897. **Dendrites** (Oxide of Manganese).

991. **El Dorado Canyon Lava,** Lincoln County.

994. **El Dorado Canyon Rock Specimen** (Seventy-seven varieties), Lincoln County.

655. **Eureka Con. Mining Company Quartzite** (So called), Eureka County.

712. **Eureka Quartzite** (?), Eureka Mining District, Eureka County.

716. **Eureka Mine Limestone,** Eureka County.

718. **Eureka Mine Limestone** (Dark), Eureka County.

721. **Eureka Mine Brecciated Limestone,** Eureka County.

722. **Eureka Mine Stained Limestone,** Eureka County.

725. **Eureka Mine Hard Limestone,** Eureka County.

727. **Eureka Mine Blue Shale,** Eureka County.

734. **Eureka Mine Light Colored Shale** (?), Eureka County.

735. **Eureka Mine Quartzite** (?), Eureka County.

737. **Eureka Mine Broken Limestone,** Eureka County.

749. **Eureka Mine Hard Limestone,** Eureka County.

753. **Eureka Mine Shale** (?), Eureka County.

765. **Eureka Mine Sandy Limestone,** Eureka County.

769. **Eureka Mine Blue Clay,** Eureka County.

774. **Eureka Mine Quartzite ?** (Decomposed, Eureka County.

287. **Grand Prize Mine Clay Vein Matter,** Tuscarora, Elko County.

282. **Grand Prize Mine Wall Rock,** Tuscarora, Elko County.

743. **Jackson Mine Stratified Limestone,** Eureka County.

760. **Jackson Mine Clay Shale** (?), Eureka County.

762. **Jackson Mine Rock Specimen,** Eureka County.

790. **Jackson Mine Quartzite** (?), Eureka County.

715. **K. K. Mine Soft Quartzite** (?), Eureka County.

776. **K. K. Mine Quartzite** (?), Eureka County.

758. **K. K. Mine Clay Shale** (?), Eureka County.

764. **K. K. Mine Decomposed Limestone,** Eureka County.

767. **K. K. Mine Shattered Limestone,** Eureka County.

780. **K. K. Mine Stained Limestone,** Eureka County.

1128. **Montello Range Rock Specimen,** Elko County.

1084. **Ophir Mine Diorite,** Mounted for the microscope, Storey County.

1909. **Ophir Mine Wall Rock,** Comstock Lode, Virginia, Storey County.

756. **Phœnix Mine Quartzite** (?), Eureka County.

784. **Phœnix Mine Breccia,** Eureka County.

1436. **Pyramid Lake Thinolite,** Roop County.

1437. **Pyramid Lake Alkaline Incrustation** (Thinolite), Formed on a pebble in Pyramid Lake, Roop County.

714. **Richmond Mine Quartzite** (?), Eureka County.

628. **Richmond Mine Light Colored Clay Shale** (?), Eureka County.

729. **Richmond Mine Blue Shale,** Eureka County.

731. **Richmond Mine Calcareous Shale** (?), Eureka County.

733. **Richmond Mine Stratified Limestone,** Eureka County.

763. **Richmond Mine Shattered Limestone,** Eureka County.

321. **Sutro Tunnel Wall or Country Rock,** With two mounted microscopic slides from face of Sutro Tunnel, Storey County.

921. **Servia and Slavonia Mine Wall Rock,** Elko County.

1153. **Silver Peak Lava,** Esmeralda County.

1627. **Thinolite** (See No. 1436), Near the road between Fort Churchill and Wadsworth, Humboldt County.

1517. **Utah Mine Wall Rock** (2000-foot level), Comstock Lode, Virginia, Storey County.

392. **Virginia City Diatomaceous Earth,** Virginia, Storey County.

711. **Virginia City Diatomaceous Earth** (Electro Silicon), Virginia, Storey County.

53. **White Pine Carboniferous Limestone,** White Pine County.

1123. **Webfoot Mine Glacial Polish** (Limestone), Railroad District, Elko County.

1753. **Yellow Jacket Mine Wall Rock,** Comstock Lode, Virginia, Storey County.

NEVADA MANUFACTURES AND METALLURGY.

706. **Antimony,** Refined from ore from Winnemucca, Humboldt County.

707. **Antimony** (Stibnite), Winnemucca, Humboldt County.

2914. **Copper Ingot,** Ludwig Copper Mine, Esmeralda County.

2360. **Silver Coin, Portion of a,** Used in "salting" the North Ophir Mine, Argentine Mining District, near Virginia City, Storey County.

2787. **Soda, Bicarbonate of,** From natural soda, found in Churchill County.

1813. **Sugar, Humboldt or Piute,** Sink of the Humboldt, Humboldt County.

666. **Sulphur** (Refined), Pacific Sulphur Company, Humboldt, Humboldt County.

NEVADA ETHNOLOGY.

1674. **Indian Relic,** Groom District, Lincoln County.

2088. **Piute Bird Cage.**

ARIZONA MINERALS.

2473. **Aragonite on Limestone,** Defiance Mine, Turquoise District, near Tombstone, Pima County.

269. **Azurite on Silver Ore,** Castle Dome District, Yuma County.

2130. **Azurite and Malachite** (Blue and Red Carbonates of Copper), Longfellow Copper Mine, fifteen miles above the Gila, Rio San Francisco, Apache County.

2221. **Azurite** (Blue Carbonate of Copper), Longfellow Copper Mine, Apache County.

2501. **Calcite,** Bisbee Mule Pass, Pima County.

1492. **Calcite,** Mammoth Mine, Cherry Creek District, Yavapai County.

1796. **Calcite and Barite** (Stained with Iron), Pioneer Claim, Empire Mining District.

1812. **Calcite,** Red Cloud Mine, Silver District, Yuma County.

2474. **Calcite,** Goodenough Mine, Tombstone, Pima County.

2480. **Calcite** (Blue), Longfellow Mine, Tombstone, Pima County.

2502. **Calcite,** Owl's Head or Minerva Mine, Tombstone, Pima County.

2492. **Cerargyrite** (Horn Silver), Junietta Mine, Tombstone, Pima County.

1825. **Cerusite Crystals** (Carbonate of Lead), Red Cloud Mine, Silver District, Yuma County.

258. **Chalcedony,** Near Tucson, Pima County.

1850. **Chalcopyrite and Sphalerite** (Zinc Blende), **with Native Silver,** Silver King Mine, Pinal County.

201. **Chalcocite,** Vermont Mine, Globe District, Pinal County.

2510. **Coal,** Black Diamond District, Deer Creek, Pinal County.

2521. **Coal,** San Carlos Reservation, Apache County.

2217. **Cuprite and Malachite,** Longfellow Mine, Apache County.

2218. **Cuprite and Native Copper,** Longfellow Mine, Apache County.

2220. **Cuprite, with Native Copper,** Longfellow Copper Mine, Apache County.

2779. **Embolite,** Grove Mine, 450-foot level, Humbug District, Yavapai County.

2816. **Fluor Spar,** Arkansas Mine, Castle Dome District, Yuma County.

437. **Galena, Argentiferous,** Castle Dome District, Yuma County.

1462. **Galena** (Washed Bowlder), Anchor Mine, Silver District, Pima County.

1747. **Galena and Fluor Spar,** Arkansas Mine, Castle Dome District, Yuma County.

1826. **Galena,** Red Cloud Mine, Silver District, Yuma County.

1562. **Gypsum** (Alabaster), About sixty miles east of Florence, Pinal County.

1824. **Gypsum,** Red Cloud Mine, Silver District, Yuma County.

2476. **Gypsum** (Selenite), Vizina Mine, Tombstone, Pima County.

2482. **Gypsum** (Selenite), San Pedro Mine, Cachise County.

2801. **Gypsum** (Satin Spar), White Mountain River, near Fort Apache, Apache County.

688. **Hematite, Micaceous,** Near Prescott, Yavapai County.

1716. **Limonite after Pyrite,** Cherry Creek District, Yavapai County.

2155. **Longfellow Copper Mine** (Mineral not determined), Apache County.

2223. **Malachite** (Carbonate of Copper), Longfellow Copper Mine, Apache County.

2222. **Melaconite ?** (Black Oxide of Copper), Longfellow Copper Mine, Apache County.

2481. **Muscovite Mica,** Near Tucson, Pima County.

306. **Peridot.**

2478. **Psilomelain** (Oxide of Manganese), Huachuca Mountains, Patagonia Range, Pinal County.

70. **Pyrope.**

3. **Pyrargyrite,** Keystone Mine, Hualapai District, Mohave County.

1485. **Quartz coated with Calcite,** Pinal County.

2800. **Selenite,** North Fork of the East Fork of the White Mountain River, near Fort Apache, Apache Co.

1655. **Sphalerite** (Zinc Blende), Silver King Mine, Pinal County.

2915. **Thenardite (Anhydrous Sulphate of Soda),** Forty miles from Prescott, Yavapai County.

2475. **Tufa, Calcareous,** Vizina Mine, Tombstone, Pima County.

1814. **Wulfenite** (Molybdate of Lead), Red Cloud Mine, Silver District, Yuma County.

1815. **Wulfenite with Galena,** Red Cloud Mine, Silver District, Yuma County.

ARIZONA ORES—GOLD.

102. **Connor Creek.**

1300. **Golden Star Mine,** Cave Creek, Maricopa County.

1871. **Head Center Mine** (Porphyry with Free Gold and Chloride of Silver), Tombstone, Pima County.

1493. **Mammoth Mine,** Cherry Creek District, Yavapai County. (Selected sample.)

1494. **Mammoth Mine,** Cherry Creek District, Yavapai County. (Sulphuret specimen.)

1497. **Mammoth Mine,** Cherry Creek District, Yavapai County. (From lowest workings.)

1495. **Sitting Bull Mine,** Cherry Creek District, Yavapai County.

1500. **Vulture Mine,** Maricopa County.

ARIZONA ORES—SILVER.

2898. **Alice Mine,** Pioneer District, Pinal County.

1269. **Amador Mine,** Globe District, Pinal County.

1461. **Anchor Mine Silver Lead Ore,** Silver District, Yuma County.

680. **Apache Chief Mine.**

1373. **Argenta Mine,** Tombstone District, Pima County.

97. **Athens Mine,** Pioneer District, Pinal County.

245. **Athens Mine Silver in Gangue,** Pioneer District, Pinal County.

2390. **Bear Cave Mine,** Dos Cabezas District, Pima County.

1168. **Black Warrior Mine,** Bradshaw District, Yavapai County.

1374. **Burleigh Mine,** Tombstone District, Pima County.

271. **Castle Dome District,** Yuma County.

1361. **Champion Mine,** Globe District, Pinal County.

2486. **Contention Mine,** Tombstone, Pima County.

233. **Daisy Dean Mine,** Cedar District.

2020. **Dwarf Mine,** Tombstone District, Pima County.

1375. **Eagle Mine,** Tombstone District, Pima County.

1376. **East Side Mine,** Tombstone District, Pima County.

360. **East Union Mine,** Pioneer District, Pinal County.

1482. **Empire Mine,** Tombstone District, Pima County.

2892. **Gem Mine,** Queen's Creek, Pioneer District, Pinal County.

1165. **Goodman Mine,** Bradshaw District, Yavapai County.

2490. **Grand Central Mine,** Tombstone, Pima County.

1377. **Grand Dipper Mine,** Tombstone District, Pima County.

1161. **Grizzly Mine,** Bradshaw District, Yavapai County.

1474. **Guanajuato Mine,** Pima County.

101. **Hackberry Mine,** Peacock Mountain, Mohave County.

2488. **Head Center Mine**, Tombstone, Pima County.

1472. **Hidden Treasure Mine**, Turkey Creek District, Yavapai County.

1464. **Holmes Mine** (Six varieties), Turkey Creek District, Yavapai County.

1468. **Holmes Mine Silver Copper Ore**, Turkey Creek District, Yavapai County.

2021. **Huachuca Mountains Silver Lead Ore**, Pima County.

62. **Hualapai District**, Mohave County.

270. **Imperial Mine No. 2**, Globe District, Pinal County.

1378. **Independence Mine**, Tombstone District, Pima County.

88. **Lone Star Mine**, Mohave County.

1379. **Lucky Cuss Mine**, Tombstone District, Pima County.

1380. **Monitor Mine**, Tombstone District, Pima County.

2895. **Mountain View Mine**, Pioneer District, Pinal County.

359. **Nabob Mine**, One mile northwest of Silver King, Pioneer District, Pinal County.

119. **Near Tucson**, Pima County.

1905. **Northern King Mine**, Pioneer District, Pinal County.

1381. **Old Guard Mine**, Tombstone District, Pima County.

369. **Ouaharte Mine**, Papago Mountains, Pinal County.

1160. **Pacific Mine**, Bradshaw District, Yavapai County.

365. **Papago Mountains**, Eighty miles from Florence, Pinal County.

1159. **Peck Mine,** Bradshaw District, Yavapai County.

277. **Pioneer District** (Three specimens), Pinal County.

2889. **Prospect Mine,** Pioneer District, Pinal County.

1816. **Red Cloud Mine Silver Lead Ore,** Silver District, Yuma County.

357. **Sacaton Mine,** Papago Mountains, Pinal County.

1423. **Saxton Mine,** Turkey Creek District, Yavapai County.

1498. **Schuyler Ledge,** Cherry Creek District, Yavapai County.

131. **Sierra Nevada Range,** Apache Pass, Pima County.

2811. **Signal Mine,** Mohave County.

1496. **Silver Belt Mine Rich Silver Lead Ore,** Near Spaulding's, Agua Fria, Yavapai County.

2019. **Silver Flame Mine,** Tombstone District, Pima County.

1163. **Silver Glance Mine,** Bradshaw District, Yavapai County.

129. **Silver King Mine,** Pinal County.

262. **Silver King Mine** (Six specimens), Pioneer District, Pinal County.

356. **Silver King Mine** (With Galena), Pioneer District, Pinal County.

2016. **Sterling Mine** (Croppings), Tombstone District, Pima County.

576. **Silver Prince Mine,** Peck District, Yavapai County.

2101. **Stonewall Jackson Mine Native Silver,** Pinal County.

2888. **St. Louis Mine,** Pioneer District, Pinal County.

970. **St. Xavier Mine** (Croppings), Eighteen miles from Tucson, Pima County.

1382. **Sunset Mine,** Tombstone District, Pima County.

1157. **Swilling Mine** (Chloride), Tip Top District, Yavapai County.

1385. **Tough Nut Mine,** Tombstone District, Pima County.

1383. **Terrible Mine,** Tombstone District, Pima County.

1167. **Thurman Mine,** Bradshaw District, Yavapai County.

1491. **Tiger Mine,** Bradshaw District, Yavapai County.

1274. **Tip Top Mine,** Yavapai County.

1384. **Tribute Mine,** Tombstone District, Pima County.

2017. **Trojan Mine,** Near Tombstone, Pima County.

2018. **Verde Mine,** Near Tombstone, Pima County.

2514. **Vizina Mine,** Tombstone, Pima County.

1714. **Warsaw Mine Silver Lead Ore,** (Two feet thick?), Oro Blanco District, Pima County.

641. **Washington Mining Company,** Pioneer District, Pinal County.

2015. **Way Up Mine,** Huachuca Mountains, thirty miles southwest from Tombstone, Pima County.

2485. **Way Up Mine,** Tombstone, Pima County (?).

1480. **Webfoot Mine,** Near Picket Post, Pinal County.

1386. **Wedge Mine,** Tombstone District, Pima County.

1166. **Whitman Mine,** Bradshaw District, Yavapai County.

ARIZONA ORES—COPPER.

827. **Ajo Copper Mine Cuprite and Chamasite (?),** Maricopa County.

679. **Apache Chief Mine.**

1447. **Arethusa Mine,** Oro Blanco, Pima County.

2219. **Longfellow Copper Mine, Breccia with Chrysocolla and Azurite,** Apache County.

2224. **Longfellow Copper Mine Rich Copper Ore,** Apache County.

2893. **Mineral Creek,** Pioneer District, Pinal County.

ARIZONA ORES—SUNDRY.

1697. **Anglesite.**

296. **Globe Mine Lead Ore,** Pinal County.

303. **Globe Mine Galena,** Pinal County.

ARIZONA ROCKS.

1463. **Anchor Mine Wall Rocks,** Silver District, Pima County.

1978. **Florence Rock Specimen,** Pinal County.

1979. **Florence Rock Specimen** (Chalcedonic), Pinal County.

2484. **Harshaw District Porphyry,** Patagonia Mountains, Pinal County.

2506. **Harshaw District Rock Specimen,** Patagonia Mountains, Pinal County.

1469. **Holmes Mine Wall Rock,** Turkey Creek District, Yavapai County.

2156. **Longfellow Copper Mine Wall Rocks with Azurite,** Apache County.

2225. **Longfellow Copper Mine Wall Rocks,** Apache County.

2505. **Lucky Cuss Mine Wall Rocks,** Tombstone, Pima County.

1488. **Mammoth Mine Porphyry** (Wall Rock), Cherry Creek District, Yavapai County.

2499. **Mountain Maid Mine Metamorphic Sedimentary Rock with Dendrites,** Tombstone, Pima County.

2495. **Mountain Maid Mine Limestone,** Tombstone, Pima County.

1489. **Phœnix and Prescott Red Granite,** Summit between Phœnix and Prescott, Yavapai County.

1484. **Picket Post Volcanic Ash,** Pinal County.

1490. **Porphyry,** Summit between Phœnix and Prescott, Yavapai County.

2494. **Tombstone Sedimentary Metamorphic Rock?** (The so-called "Porphyry" of the District), Pima County.

2500. **Tombstone Limestone Country Rocks,** Pima County.

2504. **Tombstone Wall and Country Rocks** (Nine specimens), Pima County.

2497. **Vizina Mine Impure Limestone,** Tombstone, Pima County.

2477. **Vizina Mine Quartz Rock,** Tombstone, Pima County.

2503. **Vizina Mine Metamorphic Sedimentary Rock,** Tombstone, Pima County.

1487. **Wickenburgh Red Porphyry,** Maricopa County.

ARIZONA FOSSILS.

2802. **Block of Fossiliferous Marble,** White Mountain River, near Fort Apache, Apache County.

2777. **Trigonia Tryoniana** (Cretacious Fossil), Five or ten miles from the Monument, southeast corner of New Mexico and Arizona, Pima County.

ARIZONA ETHNOLOGY.

1625. **Arrow Heads and Stone Beads,** Found on the highest peaks of the White Mountains, Pinal County.

1602. **Ax** (Stone), Near the ruins of Casa Grande, Pinal County.

1603. **Ax** (Stone), From ruins in Salt River Valley, Maricopa County.

1614. **Concrete** (Four varieties), From ruins of Casa Grande, Pinal County.

1599. **Hammer or Ax** (Stone), Near Yellow Jacket Mine, Oro Blanco Mining District, Pima County.

1600. **Hammer or Ax** (Stone), Near ruins of Casa Grande, Pinal County.

1554. **Image, Cast of a Stone,** Found at Picket Post, Pinal County.

1626. **Mica Schist,** Ruins of Casa Grande, Pinal County.

1557. **Pottery** (Ancient), From the Mesa, near the ruins of Casa Grande, Pinal County.

1556. **Portion of a Rafter,** From the ruins of Casa Grande, Pinal County.

1594. **Wood,** From ruins of Casa Grande, Pinal County.

ARIZONA SUNDRIES.

2531. **Crotaphytus reticulatus** (?).

2532. **Ctenizia, sp.** (?)

2783. **Tarantula's Nest.**

2367. **Kaolin,** With vessel made from the same.

UNITED STATES

OTHER THAN CALIFORNIA, NEVADA, AND ARIZONA.

MINERALS.

99. **Agate** (Moss), Salt Lake City, Utah.

210. **Agate** (Moss), Cut and polished.

625. **Albite Crystals** (Three specimens), Middletown, Connecticut.

2938. **Allanite,** Orange County, New York.

2954. **Ankerite,** Pennsylvania.

2962. **Anthophyllite,** Burlington, Connecticut.

2946. **Aragonite on Hematite,** Antwerp, Jefferson County, New York.

2273. **Argentite** (Sulphide of Silver), Said to come from Alaska.

1689. **Asbestus,** Staten Island, New York.

1690. **Asbestus,** Georgia.

2961. **Augite with Sphene,** Jefferson County, New York.

1415. **Automolite,** Ogdensburgh, New York.

596. **Barite,** Cheshire, Connecticut.

587. **Barite and Malachite,** Cheshire, Connecticut.

2982. **Beryl,** Acworth, New Hampshire.

2993. **Beryl in Feldspar,** Haddam, Connecticut.

610. **Blende,** Berlin, Connecticut.

616. **Buhrstone,** Rhode Island.

2092. **Buhr Mill Stone,** Bald Peter Mountain, Oregon.

582. **Calcite,** Cheshire, Connecticut.

22. **Calcite,** Bergen Hill, New Jersey.

2979. **Calcite and Quartz,** Antwerp, Jefferson County, New York.

2956. **Calcite** (Agaric Mineral), Rock Milk, Cave at Watertown, New York.

820. **Calcite,** Sixty miles from Sitka, Alaska.

2483. **Calcite,** Bonanza Mine, Grant County, New Mexico.

1403. **Calamine** (Silicate of Zinc), Ogdensburgh, New York.

2951. **Calcareous Tufa,** New York.

1802. **Carnelian,** A variety of Quartz.

2377. **Cerargyrite** (Horn Silver), Robert D. Lee Mine, Leadville, Lake County, Colorado.

364. **Cerargyrite,** Poorman Mine, Idaho.

2024. **Cerargyrite** (Chloride of Silver), Leeds, Washington County, Utah.

2998. **Chalcophanite,** Sterling, Sussex County, New Jersey.

591. **Chalcopyrite,** Vermont.

622. **Chalcopyrite,** Bristol, Connecticut.

601. **Chalcopyrite and Chalcocite,** Bristol, Connecticut.

817. **Chalcopyrite,** Island near Sitka, Alaska.

177. **Chalcedony,** Seattle, Washington Territory.

1421. **Chalcedony and Quartz,** From the same silicified tree from which No. 1420 was taken, Idaho.

385. **Chalcedony,** Idaho City, Boise County, Idaho.

609. **Chalcocite,** Cheshire, Connecticut.

588. **Chalcocite,** Bristol, Connecticut.

2987. **Chlorophane,** Cumberland, Rhode Island.

603. **Chrysocolla,** Cheshire, Connecticut.

2997. **Cleiophane** (White Blende), Franklin, Sussex County, New Jersey.

2994. **Clinochlore,** West Town, Pennsylvania.

2084. **Clay, Plastic,** Near Tacoma, Washington Territory.

2197. **Clay,** Casing of Leeds Mine, Washington County, Utah.

1818. **Clay Stones,** Connecticut River.

2965. **Columbite,** Chesterfield, Massachusetts.

205. **Coal,** Wellington, Vancouver Island.

374. **Coal and Coke,** Wyoming Coal Mine, Wyoming Territory.

1538. **Coal, Peacock,** Schuylkill, Pennsylvania.

209. **Coal,** Talbot Mine, Seattle, Washington Territory.

206. **Coal,** Seattle, Washington Territory.

203. **Coal,** Bellingham Bay, Washington Territory.

1953. **Coal,** Carbon River, Washington Territory.

1954. **Coal,** Seattle, Washington Territory.

1442. **Croppings of Coal Veins,** Carbon River, Washington Territory.

2519. **Coal,** From Eagle Mountain, Eastern Oregon.

1951. **Coal,** Coos Bay, Oregon.

208. **Coal,** Henrysville, Coos Bay, Oregon.

2457. **Coal,** From Coos Bay, Coos County, Oregon.

204. **Coal,** Newport, Coos Bay, Oregon.

207. **Coal,** Eastport, Coos Bay, Oregon.

2086. **Copper, Native,** Locality unknown.

46. **Copper, Native** (In Breccia), Lake Superior.

116. **Cuban,** Queen of Bronze Mine, Josephine County, Oregon.

1072. **Chrysotile,** Locality unknown.

2948. **Damourite,** Branchville, Connecticut.

615. **Datolite,** Cheshire, Connecticut.

2795. **Diatomaceous Earth,** As affected by the heat of a porcelain furnace.

2977. **Diabanite (?) and Calcite** (In amygdaloid rock), New Brittan, Connecticut.

2960. **Dolomite,** Jefferson County, New York.

2996. **Dysluite** (Gahnite), Fraklin, Sussex County, New Jersey.

1820. **Epidote,** Thor Mine, San Simeon District, Grant County, New Mexico.

2999. **Epidote,** Blue Ridge, Virginia.

21. **Epidote,** Willimantic, Connecticut.

2967. **Fluorite** (Fluor Spar), Rosiclare, Illinois.

2978. **Fluorite and Barite,** St. Lawrence County, New York.

37. **Franklinite,** Franklin, New Jersey.

2936. **Franklinite,** Franklin, Sussex County, New Jersey.

605. **Galenite**, Bridgewater, New Hampshire.

604. **Galenite**, Berlin, Connecticut.

585. **Galena**, Newburyport, Massachusetts.

975. **Galena**, Colorado.

2423. **Galena**, Peerless Mine, Horseshoe Gulch, Park County, Colorado.

2828. **Garnet in Mica Schist**, Mouth of Stickeen River, Alaska.

620. **Garnet**, Middletown, Connecticut.

1100. **Gold in Talcose Slate**, Black Hills, Dakota Territory.

533. **Gold in Chlorite Slate with Hematite**, Wooley Mine, Black Hills, Dakota.

537. **Gold with Hematite**, Hidden Treasure Mine, Black Hills, Dakota.

534. **Gold with Hematite**, Clara Mine No. 2, Black Hills, Dakota.

253. **Gold in Cap Rock**, Alpha Mine, Black Hills, Dakota.

1679. **Graphite**, Ticonderoga, New York.

1122. **Graphite**, Port Clarence, Grantby Harbor, Behring Straits.

2044. **Graphite** (Pure), Dixon's Perfect Lubricator, New York.

2968. **Haughite** (?), Edward's, St. Lawrence County, New York.

56. **Hematite**, Iron Mountain, Missouri.

307. **Hematite**, Fredericktown, Missouri.

1425. **Hematite**, Ogdensburgh, New York.

2413. **Hubnerite** (Tungstate of Manganese), Comstock Mine, near Deadwood, Black Hills, Dakota.

33. **Hypersthene**, Weehawken, New Jersey.

2058. **Jet** (A variety of Cannel Coal), Nehalem River, Clatsop County, Oregon.

2935. **Labradorite**, Jefferson County, New York.

608. **Lepidolite**, Middletown, Connecticut.

115. **Lignite**, Sixes River, Curry County, Oregon.

398. **Lignite**, Newport Mine, Coos Bay, Oregon.

1769. **Lignite**, Alaska.

308. **Limonite**, Fredericktown, Missouri.

2405. **Limonite** (Impure) Twenty miles from Spokane Falls and thirty miles from Pyramid Lake, Washington Territory.

623. **Limonite**, Salisbury, Connecticut.

40. **Limonite**, Lake Superior.

1904. **Magnetite**, Althouse Creek, Josephine County, Oregon, four miles north of the California line.

2288. **Marble**, Lake Champlain, New York.

2296. **Marble**, Trenton Falls, New York.

2298. **Marble** (Black), Glen Falls, New York.

2950. **Marble** (Verd-Antique) **with Retinalite**, Jefferson County, New York.

2293. **Marble**, Pennsylvania.

584. **Marble**, Burlington, Vermont.

264. **Marble** (White), Rutland, Vermont.

265. **Marble**, Tennessee.

2294. **Marble** (Dark), Tennessee.

593. **Malachite,** Cheshire, Connecticut.

2975. **Malachite, Quartz, and Barite,** Cheshire, Connecticut.

594. **Malachite,** Cheshire, Connecticut.

2942. **Magnetite,** Morris County, New Jersey.

2955. **Magnetite** (Natural Magnet), Dickerson's Mine, Morris County, New Jersey.

2925. **Meteoric Iron** (The Chilcat Meteorite), Portage Bay, Chilcoot Inlet, Alaska.

2966. **Mica** (Plumose), Salisbury, New Hampshire.

2937. **Millerite** (Sulphide of Nickel, Needle Crystals in cavity), Orange County, New York.

2160. **Mica,** New Mexico. (?)

1821. **Mica Schist,** Philadelphia, Pennsylvania.

2031. **Mica Crystal,** Paris, Maine.

2926. **Molybdenite,** (Sulphide of Molybdenum), Stanhope, New Jersey.

2958. **Molybdenite,** Natural Bridge, Jefferson County, New York.

337. **Moss Agate,** Utah.

2953. **Muscovite,** Pennsbury, Pennsylvania.

617. **Muscovite,** Middletown, Connecticut.

1672. **Obsidian,** Mistaken for coal, San Pedro River, near line of S. P. R. R.

618. **Oligoclase,** Middletown, Connecticut.

593. **Orthoclase,** Middletown, Connecticut.

2780. **Ozocerite,** Utah.

2782. **Partzite**, Silver Bar Mine, Coony Mining District, New Mexico.

1819. **Pectolite**, Bergen Hill, New Jersey.

2947. **Petalite**, Boston, Massachusetts.

2194. **Petrified Wood** (Argentiferous), Leeds, Washington County, Utah.

2980. **Phlogopite**, St. Lawrence County, New York.

606. **Prehnite**, Tariffville, Connecticut.

157. **Priceite** (Borate of Lime), Curry County, Oregon.

818. **Pyrites**, Island near Sitka, Alaska.

244. **Pyrargyrite**, Atlanta Mine, Alturas County, Idaho.

193. **Quartz Crystals** (Cut), Ten specimens.

2988. **Quartz Crystals**, Hot Springs, Arkansas.

2830. **Quartz Crystals**, Wood River, Idaho.

2341. **Quartz Crystals**, Trenton Falls, New York.

2991. **Quartz** (Rose) With grains of menacanite, Saulsbury, New Hampshire.

597. **Quartz**, Cheshire, Connecticut.

32. **Quartz**, New York County, New York.

1407. **Quartz** (Drusy), Missouri.

1413. **Quartz Geode**, Valley of the Upper Mississippi River.

2133. **Quartz with Pyrite**, Alaska.

1646. **Quartz** (Chalcedonic with cubic cavities, formerly filled with pyrite crystals), Lady Washington Mine, Colorado.

187. **Realgar**, Seattle, Washington Territory.

2931. **Rhodonite,** Franklin, Sussex County, New Jersey.

2974. **Rubellite** (Red Tourmaline), Middletown, Connecticut.

2146. **Salt** (Natural or Solar), Shores of Salt Lake, Utah.

2995. **Scapolite and Sphene,** Natural Bridge, N. Y.

2964. **Scapolite,** Natural Bridge, Jefferson County, New York.

189. **Scheelite with Tourmaline,** Seattle, Washington Territory.

387. **Selenite.**

2984. **Serpentine** (Bowenite), Smithfield, Rhode Island.

2929. **Serpentine and Chrysotile,** Montville, New Jersey.

2940. **Serpentine** (Precious), Montville, New Jersey.

2970. **Serpentine,** Jefferson County, New York.

1150. **Silicified Wood.**

1420. **Silicified Wood,** Cavity lined with crystals of quartz and calcite, Idaho.

1124. **Silicified Wood,** Unga Island, coast of Alaska.

1589. **Silicified Wood,** Unga Island, Alaska.

5. **Silver** (Native), Mahogany Mine, Idaho.

2724. **Silver** (Native) **with Copper,** Lake Superior.

2723. **Silver** (Native), Lake Superior.

2959. **Staurolite** (Pink), St. Lawrence County, New York.

2990. **Stilbite,** Plymouth, Connecticut.

607. **Talc** (Radiated), Burlington, Connecticut.

2932. **Talc,** St. Lawrence County, New York.

2944. **Tephroite and Zincite,** Franklin, Sussex County, New Jersey.

355. **Tetrahedrite** (?) **Silver Ore,** Rising Star Mine, Flint District, Idaho.

2976. **Tourmaline** (Black) **Schorl,** St. Lawrence County, New York.

592. **Tourmaline,** Middletown, Connecticut.

58. **Tourmaline in Quartz,** New York.

2941. **Tourmaline** (Brown), St. Lawrence County, New York.

2939. **Tourmaline** (Green and Red), Middletown, Connecticut.

2981. **Tourmaline** (Green), Middletown, Connecticut.

2945. **Tremolite,** St. Lawrence County, New York.

2949. **Tremolite,** New York.

966. **Tschermigite** (Ammonium Alum), Utah County, Utah.

2971. **Vivianite** (which has replaced a Fossil Belemite), Mullica Mill, Gloucester County, New Jersey.

2972. **Vivianite,** Mullica Hill, Gloucester County, New Jersey.

2985. **Willemite** (Green), Ogdensburg, Sussex County, New Jersey.

2930. **Willemite, Zincite, and Franklinite,** Franklin, Sussex County, New Jersey.

2957. **Willemite and Franklinite,** Franklin, Sussex County, New Jersey.

2933. **Wollastonite, Sphene, Augite, Zircons, etc.,** Natural Bridge, Jefferson County, New York.

2973. **Wollastonite,** Natural Bridge, Jefferson County, New York.

2934. **Zincite** (Ruby Zinc), Franklin, Sussex County, New Jersey.

2928. **Zincite in Calcite,** Franklin, Sussex County, New Jersey.

2952. **Zincite and Franklinite,** Franklin, Sussex County, New Jersey.

38. **Zincite and Franklinite,** Franklin, New Jersey.

1715. **Zinkenite,** Idaho.

2992. **Zoicite** (On Quartz), Orange County, Connecticut.

GOLD ORES.

363. **Gold Quartz,** Pioneer Mine, Granite Creek, Idaho.

372. **Gold Quartz,** Golden Chariot Mine, War Eagle, Idaho.

98. **Gold and Silver Ore,** Golden Chariot Mine, Idaho.

1392. **Auriferous Quartz,** Georgia.

2798. **Small Specimens of Quartz showing Free Gold,** Takou, Alaska.

1103. **Vein Matter,** Homestake Mine, Black Hills, Dakota.

531. **Gold Quartz with Hematite and Free Gold,** Aurora Mine, Black Hills, Dakota.

2174. **Rich Ore,** Black Hills, Dakota.

535. **Gold Quartz,** Clara Mine, Black Hills, Dakota.

163. **Ore,** From Golden Terra Mine, Deadwood, Dakota.

1101. **Gold Quartz,** Homestake Mine, Black Hills, Dakota.

536. **Gold Quartz,** Hoodlebug Mine, Black Hills, Dakota.

532. **Gold Quartz and Chlorite Slate,** Occidental Mine, Black Hills, Dakota.

SILVER ORES.

678. **Alice Mine,** Little Cottonwood District, Utah.

1199. **Argentiferous Galena,** Gregory Mine, Jefferson County, Montana.

2203. **Argentiferous Sandstone with Fossil Plants,** Washington County, Utah.

2205. **Argentiferous Sandstone,** Christie Mine, Washington County, Utah.

2206. **Argentiferous Sandstone** (Slaty formation), Christie Mine, Washington County, Utah.

2207. **Argentiferous Sandstone with Fossil Plants,** Christie Mine, Washington County, Utah.

2196. **Argentiferous Sandstone showing Foss Plants,** Leeds, Washington County, Utah.

2198. **Argentiferous Sandstone** (Remains of Plants), Kinner (?) Mine, Washington County, Utah.

2195. **Argentiferous Sandstone stained with Azurite,** Leeds, Washington County, Utah.

2199. **Argentiferous Sandstone with Lignite,** Leeds Mine, Washington County, Utah.

2193. **Argentiferous Sandstone,** Leeds Mine, Washington County, Utah.

2200. **Argentiferous Sandstone** (Slaty Structure), Stormont Mine, Washington County, Utah.

2201. **Argentiferous Sandstone, showing Free Silver and Fossil Plants,** Stormont Mine, Washington County, Utah.

2204. **Argentiferous Sandstone with Lignite,** Stormont Mine, Washington County, Utah.

2202. **Argentiferous Sandstone,** Stormont Mine, Washington County, Utah.

2210. **Argentiferous Sandstone,** Thompson & McNally Mine, Washington County, Utah.

2212. **Argentiferous Sandstone with Lignite,** Thompson & McNally Mine, Washington County, Utah.

2211. **Argentiferous Sandstone with Fossil Plants,** Thompson & McNally Mine, Washington County, Utah.

2208. **Argentiferous Sandstone,** Walker & Barbee Mine, Washington County, Utah.

538. **Black Hills,** Dakota.

78. **Bay State Mine,** Owyhee County, Idaho.

2491. **Bonanza Mine,** Eureka District, Grant County, New Mexico.

2487. **Chance Mine,** Victorio District, Grant County, New Mexico.

1475. **Deer Island Mine,** Coast of Maine.

683. **Emma May Mine,** Little Cottonwood District, Utah.

105. **Georgetown,** Connecticut.

1112. **Leeds Mining District,** Washington County, Utah.

2891. **Lexington Mine,** Near Helena, Montana.

2389. **Lime Carbonates (?),** Little Walter Mine, Horseshoe Gulch, Park County, Colorado.

195. **Maggie Mine,** Owyhee County, Idaho.

1245. **Maggie Mine,** Near Franconi City, Idaho.

254. **Maggie Mine,** Franconi City, thirteen miles south of Silver City, Owyhee County, Idaho.

435. **Native Silver,** Mahogany Mine, Idaho.

2411. **Ontario Mine,** Parley's Park, Utah.

430. **Ontario Mine,** Uintah District, Summit County, Utah.

651. **Pauper Mine,** Silver City, Idaho.

1748. **Silver Sandstone,** Leeds Mine, Washington Co., Utah.

1848. **Silver Sandstone,** Leeds District, Washington County, Utah.

1507. **Silver Sandstone** (So called), Leeds Mine, Washington County, Utah.

2406. **"Sand Carbonates,"** Mountain Chief Mine, Buckeye Gulch, Leadville, Lake County, Colorado.

1151. **Silver and Copper Ore,** Robertson District, Colorado.

461. **Superior Mine,** Ontonongon River, Michigan.

1452. **Silver Gold Ore,** Black Jack Mine, Silver City, Idaho.

2399. **Silver Lead Ore,** Robinson Mine, Kokone, Park County, Colorado.

1176. **Silver Lead Ore,** Tecoma Mine, Lucin District, Utah.

1717. **Thor Mine,** San Simeon District, Grant County, New Mexico.

SUNDRY ORES.

1158. **Antimonial Copper and Silver Ore,** Ontario Mine, between third and fourth levels east, Unita District, Utah.

690. **Antimony Ore,** Hollister, San Benito County, Cal.

1182. **Antimonial Copper and Silver Ore,** Ontario Mine, Utah.

1395. **Copper Ore,** Boundary of Colorado and New Mexico.

2430. **Galena,** Crusader Mine, Horseshoe Gulch, Park County, Colorado.

1743. **Galena** (Coated with Siderite and Chalcedony), Colorado.

2489. **Galena Ore,** Butterfly Mine, Eureka District, Grant County, New Mexico.

108. **Ironstone Concretion,** Sixes River, Curry County, Oregon.

2407. **Louetta Mine,** Iowa Gulch, Colorado.

2266. **Sulphuret Ore,** Orchoco Creek, Curry County, Oregon.

2408. **Talc Iron Mine,** California Gulch, Leadville, Lake County, Colorado.

ROCKS.

1088. **Altered Quartose** (Trachytic Diorite, mounted for microscope).

383. **Amydaloidal Trap,** Southington, Connecticut.

2737. **Basalt with Olivine,** Columbia River, Washington Territory.

2099. **Breccia,** Idaho.

2056. **Diatomaceous Earth,** Oregon.

24. **Freestone,** Haverstraw, New York.

199. **Flagstone,** Hudson River, New York.

1590. **Ferruginous Limestone** (Water-worn). Taken from a cave in New Mexico.

3000. **Garnetiferous Gneiss,** Jefferson County, New York.

2303. **Granite** (Polished), Richmond, Virginia.

2302. **Granite** (Polished), Fox Islands, Maine.

2301. **Granite** (Dark—Polished), Quincy, Massachusetts.

213. **Granite** (No. 1), Cape Ann, Massachusetts.

1797. **Granite** (Red), Wyoming Territory, nearest town, Fort Laramie.

48. **Granite** (Coarse—Pink Orthoclase).

220. **Granite,** Quincy, Massachusetts.

1854. **Granite,** Of which the Capitol at Albany, New York, is built.

1371. **Itacolumite** (Flexible Sandstone), Georgia.

179. **Lignite Rock,** Eureka District, Nevada.

2498. **Limestone Wall Rocks,** Eureka District, Grant County, New Mexico.

1693. **Mica Schist,** Alaska.

1323. **Ozocerite,** Utah.

155. **Pebbles and Shells,** Gulf of California.

2081. **Peat,** Barnegat Bay, New Jersey.

2831. **Porphyritic Diorite** (?), Wood River, Idaho.

2508. **Rock Specimen,** Cow Springs, Grant County, New Mexico.

2509. **Rock Specimen,** Viejo Range, Grant County, New Mexico.

2834. **Rock Specimen,** Wood River, Idaho.

599. **Triassic Limestone,** Southington, Connecticut.

611. **Triassic Sandstone,** Southington, Connecticut.

590. **Trap,** Southington, Connecticut.

2507. **Wall Rock,** King Mine, Eureka District, Grant County, New Mexico.

1719. **Wall Rocks,** Thor Mine, San Simeon District, Grant County, New Mexico.

FOSSILS UNDETERMINED.

704. **Baculite,** Deadwood County, Dakota.

2063. **Fossils,** Astoria, Clatsop County, Oregon.

1099. **Fossil Ivory,** Alaska.

2265. **Fossil Coral,** New Mexico.

1. **Fossil Plants, Slab with,** Box Elder County, Utah.

1476. **Fossil,** Found in formation overlying coal, Curry County, Oregon.

1530. **Fossils,** Near Seattle, Washington Territory.

1125. **Fossil Ferns,** Unga Island, Coast of Alaska.

2051. **Fossil Fish,** Green River, Wyoming.

2432. **Fossil Fish** (Diplomystus humilis?), Leidy, Green River Shale, Wyoming.

939. **Fossil Shells,** Rock Creek, near Dalles, O

2209. **Fossil Plants** (Argentiferous), Leeds Mine ington County, Utah.

2353. **Fossil Wood,** Locality unknown.

2349. **Silicified Wood with Fossil Worms** (Discovery, Washington Territory.

FOSSILS—DEVONIAN.

1787. **Cast of,** Gyroceras Cyclops, Hall, Carbo Period. Original found at Marion, Ohio.

312. **Old Red Sandstone,** Binghampton, New

2761. **Zaphrentis,** Canandaigua, New York.

FOSSILS—SILURIAN.

1780. **Cast of,** Lichas boltoni (Paradoxides bolton inal found at Lakeport, New York.

2760. **Asaphus gigas,** New York.

1779. **Cast of Lower,** Asaphus gigas (Isotelus Original found at Reading, Ohio.

1778. **Cast of a Lower,** Asaphus megistos (megistos), Original found at Morning Su

1308. **Bathyurus,** New York.

1311. **Bellerophon bilobatus,** New York.

2943. **Birdseye Limestone,** Watertown, New under the suspension bridge.

1306. **Bucania punctifrons,** New York.

1312. **Calymene senaria,** New York.

1309. **Camarella hemiplicata,** New York.

1289. **Cerarurus pleurex anthemus,** New York.

1781. **Cast of,** (Ceraurus icarus), Original found at Richmond, Indiana.

1409. **Chaetetes muricata,** Lebanon, Ohio.

1213. **Columnaria aveolata,** Watertown, New York.

1783. **Cast of,** (Conularia, richmondensis), Original found at Richmond, Indiana.

1313. **Conularia trentonensis,** New York.

1359. **Crytoceras annulatum,** New York.

1314. **Crytolites ornatus,** New York.

1410. **Favosites** (Fossil Coral), Grant County, Indiana.

1281. **Holopea,** New York.

2762. **Lorraine Shale,** Jefferson County, New York.

1698. **Murchisonia bellicincta,** Hamilton, Ohio.

1307. **Murchisonia bicincta,** New York.

1230. **Orthis pectinella** (Var. Semiovalis), New York.

1232. **Orthis pectinella,** New York.

1305. **Orthis testudinaria,** New York.

1280. **Orthoceras lamellosum,** New York.

1290. **Pleurotomaria lenticularis** (Raphistoma lenticulare), New York.

1288. **Pleurotomaria trochonema umbilicatum,** New York.

1319. **Schizocrinus nodosus,** New York.

1668. **Scolithus linearis,** Cincinnati, Ohio.

1432. **Silurian Limestone,** Indiana.

1304. **Subulites elongatos,** New York.

1247. **Streptilasma corniculum,** Ohio.

1237. **Streptilasma corniculum,** New York.

2319. **Strophomena alternata,** New York.

1702. **Strophomena alternata,** Hamilton, Ohio.

1220. **Tetradium,** Watertown, New York.

353. **Travertine showing Fossil Leaves,** Livingston County, New York.

1782. **Cast of Trochoceras Richmondensis,** Original found at Richmond, Indiana.

SUNDRIES.

948. **Mammalian Fossils,** Cave near John Day River, Oregon.

949. **Mammalian Fossils,** Horse Beds, near John Day River, Oregon.

1183. **Phosphatic Nodules,** Seaboard of South Carolina, between Charleston and Savannah.

2518. **Scapula of Mammoth,** Cascades, Wasco County, Oregon.

1198. **Sharks' Teeth** (Carcharodan maximum), Waters near Charleston, South Carolina.

1798. **Tooth of Elephas Primigenius,** Quarternary Age, Oregon. Two specimens.

626. **Triassic Sandstone, Fucoid from,** Southington, Connecticut.

MANUFACTURES.

393. **Artificial Paving Stone** (Schellenger Stone).

339. **Artificial Stone** (Ransome Stone).

2077. **Artificial Fuel** (Egg Coal, compressed from fine screenings), Philadelphia.

107. **Artificial Fuel,** Wyoming Coal Mine, Washington Territory.

1835. **Asbestus Fiber** (Four samples), Used in manufacture.

1839. **Asbestus Steam Packing** (Seven samples).

1834. **Asbestus Paint.**

1692. **Asbestus Felting,** Manufactured by the W. H. Jones Manufacturing Company of New York.

1838. **Asbestus Board.**

1841. **Asbestus Roofing.**

1837. **Asbestus Cloth.**

1836. **Asbestus Lamp Wick.**

2354. **Cast Iron,** From the first pig cast in Oregon, and probably the first on the Pacific Coast.

194. **Frear Stone** (Artificial).

2045. **Graphite Crucible.**

169. **Slab of Plaster of Paris** (Artificial).

1396. **Sesquioxide of Chromium.**

ETHNOLOGICAL AND HISTORICAL.

1553. **Skull of Flat Head Indian.**

2314. **Comparative Chart** Of Crania of Ancient Peruvian, Guatamalian Indian, and Abiquin.

2313. **Chart of Comparison** Between the Crania of Mound Builder and White Man.

2312. **Photograph of Mound Builder's Skull.**

2757. **Mound Builder's Pot,** Found in a large mound in Mississippi County, Missouri.

1608. **Indian Arrow Head of Jasper,** Hamilton County, Ohio.

2070. **Three Arrow Heads,** Martha's Vineyard, Massachusetts.

1612. **Arrow Heads of Jasper,** St. Clair County, Michigan.

2071. **Arrow Head,** Ellensburg, Curry County, Oregon.

1618. **Scraper of Jasper,** St. Clair County, Michigan.

1607. **Indian Arrow Head of Jasper,** Boone County, Kentucky.

2072. **Phallic Emblem,** Ellensburg, Curry County, Oregon.

1401. **Bronze Chain Cable,** Cast on shore on the coast of Oregon, between the mouth of the Columbia River and Tillamook Bay.

2228. **Bronze Elephant,** Coast of Oregon, between the mouth of the Columbia River and Tillamook Bay. Washed ashore from the same wreck from which the Chain (No. 1401), and the Wax (No. 2090), were obtained.

1799. **Indian Mortar,** Oregon.

2090. **Wax,** Washed on shore from an ancient wreck, supposed to be Japanese, coast of Oregon, between Tillamook Bay and the mouth of the Columbia River. (See No. 1401.)

1777. **Cast of a Badge of Authority,** Used by the Ancient Mound Builders, original found in Butler County, Ohio.

2229. **Bowl of the Sacred Terraces,** Of the Zuni Indians, Zuni Villages, New Mexico.

1776. **Cast of a Mound Builder's Pipe,** Original found at Troy, Ohio.

1757. **Old Dutch Tiles,** Burlington, New Jersey.

2073. **Grape Shot,** Found on the battle field of New Orleans.

2074. **Old Musket Flints,** Found on the battle field of New Orleans.

2479. **Litharge** (From Ancient Furnaces), common in Arizona, Willow Springs, Grant Co., New Mexico.

2752. **Fractional Currency of the United States,** Issued in 1863.

2753. **Postal Currency of the United States,** Issued in 1862.

2749. **Confederate States Currency,** Issued in 1864.

2751. **Continental Currency,** Issued by the State of Pennsylvania in 1777.

SUNDRIES.

1888. **Claw of Lobster,** Egg Harbor, New Jersey.

1706. **"Fanleaf" Oyster Shells,** Cote Blanche Bay, Louisiana.

1704. **Oyster Shells,** Cote Blanche, Louisiana.

1705. **Oyster Shells,** Barnegat Bay, New Jersey.

9. **Pearl on Shell of Pearl Oyster,** Lower C
nia, north of La Paz.

2060. **Sabre Solen,** Cape May, New Jersey.

FOREIGN MINERALS.

2989. **Apatite,** Burges, Canada.

1916. **Aragonite,** From the Temple of Karnak, Upper Egypt.

2036. **Arquerite** (Silver Amalgam), Vital Creek, British Columbia, latitude 53° north.

2059. **Arquerite** (Silver Amalgam), Mason Creek, British Columbia. (See No. 2036.)

158. **Asbestus,** Italy.

1687. **Asbestus,** From Canada, used in the manufacture of asbestus preparations.

2396. **Asphaltum,** Egypt.

2436. **Asphaltum,** Cuba.

1414. **Atacamite,** Atacama, Chile.

2403. **Atacamite and Hematite,** Atacama, Chile.

2087. **Bituminous Shale** (Wollongongite), Australia.

1434. **Bornite with Calcite,** Coquimbo, Chile.

1424. **Copper Ore** (Bornite), Copiapo, Chile.

2400. **Buhr Stone** ("New Quarry"), Leferte, France.

2402. **Buhr Stone** ("Old Quarry"), Leferte, France.

1923. **Red Calcite,** Luxor, Upper Egypt.

2041. **Quartz** (Chalcedony), Libertad, Sonora, Mexico.

614. **Chalcopyrite,** Island Pond, Canada.

1950. **Coal,** West Hartley, Scotland.

1852.. **Cannel Coal,** New London, England.

1952. **Coal,** Wallsend, Sydney, New South Wales.

1955. **Coal,** Scotch.

1956. **Coal,** Nanaimo, British Columbia.

1957. **Coal,** Scotch Splint.

1958. **Coal,** Wellington, Departure Bay, British Columbia.

2317. **Coal Croppings,** Eight-foot vein, Yaqui River, Sonora, Mexico.

2347. **Coal** (Anthracite), La Barranca, Sonora, Mexico.

2325. **Croppings of Coal,** East of Yaqui River, Sonora, Mexico.

2326. **Coal Croppings,** San Javier, Sonora, Mexico.

2771. **Coal ?** (Anthracite), Santa Clara Mine, Barranca Mill and Mining Company, one hundred and twenty miles east of Guaymas, near the Rio Yaqui, Sonora, Mexico.

2785. **Coal,** Queen Charlotte's Island, British Columbia.

2818. **Coal** (West Vein), Near Vermilion Peak, Sonora, Mexico.

2520. **Coal** (East Vein), Near Vermilion Peak, Sonora, Mexico.

2924. **Crystal of Cobaltite** (Model), Sulphides of Cobalt and Arsenic, found at Tunaberg, Sweden.

2037. **Copper** (Native), Vital Creek, British Columbia. (Found with No. 2036.)

2083. **Copper Ore** (Chrysocolla), Near Scammon's Lagoon, Lower California, Mexico.

1426. **Coquimbite,** Copiapo, Chile.

824. **Cuprite,** Island of Texada, Straits of Georgia, British Columbia.

2080. **Epsomite** (Sulphate of Magnesia), Epsom, England.

160. **Erubescite** (Copper Ore), Nacosari Mine, Sonora, Mexico.

197. **Erubescite and Chalcopyrite,** Nacosari Mine, Sonora, Mexico.

1887. **Erubescite and Chalcopyrite** (Copper Ore), Texada Island, Straits of Georgia, British Columbia.

1428. **Erythrite** (Arseniate of Cobalt), Huasco, Chile.

2214. **Feldspar** (Orthoclase), Rio Janeiro, Brazil.

26. **Fluor Spar,** Derbyshire, England.

2763. **Garnierite** (Silicate of Nickel), New Caledonia.

223. **Gold and Albite,** Muletes Mine, Sonora, Mexico.

2066. **Gold** (Placer), Manson Creek, British Columbia. (Found with Arquerite.)

2920. **Gold Nugget** (Model of the Welcome), Found in Ballarat, Victoria, Australia.

2921. **Gold Nugget** (Model of the Ural), Found in the Ural Mountains, Siberia.

238. **Graphite,** Sixty miles northeast of Guaymas, Mexico.

381. **Graphite,** Twelve miles from Guaymas, Mexico.

705. **Graphite,** Ceylon.

1510. **Graphite,** Juanita Mine, sixty miles northwest of Guaymas, Mexico.

2986. **Graphite,** Moravia, Austria.

125. **Gypsum** (Selenite), Lower California.

224. **Gypsum** (Two specimens), St. Marcus Island, Gulf of California.

1419. **Gypsum**, Nova Scotia.

1591. **Gypsum** (Selenite), Moleje, Lower Calif Mexico.

2420. **Gypsum**, Lower California, Mexico, just belo line of San Diego County.

2418. **Hornblende**, Sonora, Mexico.

211. **Malachite** (Cut), Australia.

1926. **Marble** (Sample of White), Carrara, Italy.

2286. **Marble** (Black and Gold), Egyptian.

2287. **Marble** (Gray), Victoria, New South Wales, tralia.

2289. **Marble**, French Gray.

2290. **Marble**, Sienna.

2291. **Marble**, Bordella.

2292. **Marble** (Aragonite), Mexican Onyx.

2299. **Marble**, Bastard Lisbon.

1404. **Mica** (Copper), Burgess, Canada.

1408. **Mica**, Canada.

2364. **Mica** (Specimen of), Sent from Germany to the quality required for use in the arts.

335. **Nematite** (Brucite), Hoboken, New Jersey.

2923. **Nugget of Platinum** (Model of a), Four Russia.

1537. **Peat or Turf** (Sample of), Killarney, C Kerry, Ireland.

1536. **Peat or Turf** (Sample of), Port Rush, C Antrim, Ireland.

2075. **Pyrargyrite** (Ruby Silver), Caracoles, Bolivi

341. **Pyromorphite,** Cornwall, England.

1849. **Quartz** (Brazilian Pebble), Brazil.

1930. **Quartz Crystals,** Found imbedded in marble, Carrara, Italy.

2213. **Quartz** (Flint), Dover, England.

2382. **Quartz** (Massive), Rio Janeiro, Brazil.

51. **Selenite,** Nova Scotia.

1810. **Selenite** (Gypsum), Siberia.

1346. **Silicified Wood,** Lower California, Mexico.

2764. **Silver** (Native), **In Calcite with Sphalerite,** San Miguel Mine, Batopilas, Chihuahua, Mexico.

39. **Sulphur and Calcite,** Sicily.

334. **Tetrahedrite Coated with Crystals of Chalcopyrite** (Crystals of), Cornwall, England.

1388. **Tin** (Stream), New England, New South Wales.

1389. **Tin** (Stream, No. 2), Graveyard Mine, Vegetable Creek, New South Wales.

1445. **Tin** (Stream), Near Coneto, Durango, Mexico.

2878. **Tin** (Stream), Durango, Mexico.

2022. **Ulexite** (Borate of Lime), Peru.

2023. **Ulexite** (Borate of Lime), Chili.

FOREIGN ORES – GOLD.

2284. **Pyritic Ore,** Near Numea, New Caledonia.

2466. **Union Mine,** Mazatlan District, Mexico.

FOREIGN ORES—SILVER.

2082. **Silver Copper Ore,** Texada Island, British Columbia.

191. **Plumosa Mine** (Seven specimens), Guatamala.

190. **San Juan Lode** (Three specimens), Guatamala.

162. **Socorro Mine** (Four specimens), Guatamala.

2467. **Alicran Mine,** Copala, Sinaloa, Mexico.

545. **Barreteros Mine,** Mexico.

2902. **Casochella Mine,** Lower California.

2464. **Cinco Senores Mine,** Copala, Sinaloa, Mexico.

202. **Componero Mine,** Sonora, Mexico.

676. **Cosala,** Mexico.

2460. **Cuatro Senores Mine,** Copala, Sinaloa, Mexico.

2461. **Escalera Mine,** Topina, Durango, Mexico.

2810. **Faisan Mine,** Panuco District, Sinaloa, Mexico.

1234. **Fortuna Mine,** Triunfo, Lower California, Mexico.

1228. **Mendozena Mine,** Triunfo, Lower California, Mexico.

682. **Mina Prieta,** Sonora, Mexico.

1225. **Nacimiento Mine,** Triunfo, Lower California, Mexico.

2809. **Peno Mine,** Sinaloa, Mexico.

1808. **Principally Sphalerite or Zinc Blende;** Perral District, Chihuahua, Mexico.

166. **Reforma Mine,** Lower California.

123. **San Jose Mine,** San Antonio District, Lower California, Mexico.

2463. **San Jose Mine,** Copala, Sinaloa, Mexico.

1235. **San Nicolas Mine,** Triunfo, Lower California, Mexico.

1226. **San Pedro Mine,** Triunfo, Lower California, Mexico.

1231. **Santa Teresa Mine,** Triunfo, Lower California, Mexico.

286. **Sinaloa Mine,** Eighty miles from Mazatlan, Mexico.

637. **Near Sinaloa,** Mexico.

1233. **Soledad Mine,** Triunfo, Lower California, Mexico.

2462. **Trinidad Mine,** Copala, Sinaloa, Mexico.

2465. **Union Mine,** Mazatlan District, Mexico.

1555. **Average Sample of the Ores,** From Cerro Pasco Mine, Peru, South America.

FOREIGN ORES—COPPER.

695. **Ida Copper Mine,** Lower California, Mexico.

136. **Soledad Mine,** Durango, Mexico.

FOREIGN ROCKS.

1534. **Basalt,** Containing Metallic Iron and Sesquichloride of Iron, Greenland.

2882. **Brecciated Rock,** China.

1857. **Diorite, Orbicular** (Napoleonite), Island of Corsica, France.

1809. **Freestone,** From the promontory upon which the city of Sydney, New South Wales, is built.

221. **Flagstone,** Scotland.

2742. **Freestone** (Brown), Coronado Island, twenty-five miles south of San Diego, Lower California, Mexico.

2380. **Gneiss** (With veins of Orthoclase Feldspar), Rio Janeiro, Brazil. (See No. 4214.)

215. **Granite,** Hong Kong, China.

2381. **Granite** (Coarse), Rio Janeiro, Brazil.

1924. **Limestone** (Nummulitic), From top of the great pyramid of Cheops, Egypt.

212. **Lava,** Vesuvius.

452. **Lava,** Sandwich Islands.

2496. **Rock** (Hornblende), Lower California, near the coast.

2315. **Roaring Sand,** So called, Hawaian Islands.

1921. **Rock Specimens,** First cataract of the Nile, Egypt.

1914. **Rock Specimen,** From the Island of Philae, Nile, Egypt.

2305. **Syenite** (Red), Bay of Fundy.

2786. **Talcose Rock,** Sonora, Mexico.

FOREIGN FOSSILS.

848. **Aleyonidium circumvestiens** (On a Trophon), Coralline Crag, near Orford Castle, England.

851. **Alveolaria semiovata,** Coralline Crag, near Orford Castle, England.

1785. **Cast of** (Ammonites martini). Original found in England.

1786. **Cast of** (Ammonites bisulcatus). Original found in Wurtemberg, Germany.

1699. **Ananchytes ovatus** (Cretaceous Fossil), Meudon, France.

864 **Anomia striata,** Coralline Crag, near Orford Castle, England.

839. **Aporrhais pespelicani,** Coralline Crag, near Orford Castle, England.

854. **Astarte digitaria** (Woodia digitaria), Coralline Crag, near Orford Castle, England.

872. **Astarte obliquata,** Coralline Crag, near Orford Castle, England.

867. **Astarte omallii,** Coralline Crag, near Orford Castle, England.

1327. **Bivalves** (Fossil), Northern part of Sonora, Mexico.

841. **Buccinum dalei,** Red Crag, near Orford Castle, England.

870. **Buccinum undatum,** Red Crag, near Orford Castle, England.

881. **Bulla cylindracea,** Coralline Crag, near Orford Castle, England.

1784. **Cast of** (Calymene blumenbachii), Original found in England.

1701. **Cardita alticosta,** Mexico.

894. **Cardita scalaris,** Coraline Crag, near Orford Castle, England.

843. **Cardita senilis,** Coralline Crag, near Orford Castle, England.

860. **Cellepora edax** (On a Nassa), Coralline Crag, near Orford Castle, England.

887. **Chemnitzia internodula,** Coralline Crag, near Orford Castle, England.

847. **Clavatula concinnata,** Coralline Crag, near Orford Castle, England.

888. **Clavatula costata,** Coralline Crag, near Orford Castle, England.

859. **Clavatula laevigata,** Coralline Crag, near Orford Castle, England.

871. **Clavatula turricula,** Red Crag, near Orford Castle, England.

853. **Clyptraea sinensis,** Coralline Crag, near Orford Castle, England.

866. **Columbella minor,** Coralline Crag, near Orford Castle, England.

884. **Columbella sulcata,** Coralline Crag, near Orford Castle, England.

883. **Conovulus pyramidalis,** Red Crag, near Orford Castle, England.

855. **Corbula striata,** Coralline Crag, near Orford Castle, England.

857. **Cypræa avellana,** Red Crag, near Orford Castle, England.

865. **Cypræa europæa,** Coralline Crag, near Orford Castle, England.

862. **Cypræa retusa,** Red Crag, near Orford Castle, England.

877. **Emarginula crassa,** Red Crag, near Orford Castle, England.

889. **Emarginula fissura,** Red Crag, near Orford Castle, England.

835. **Fascicularia aurantium,** Coralline Crag, near Orford Castle, England.

868. **Fascicularia tubipora,** Coralline Crag, near Orford Castle, England.

852. **Gastrana laminosa,** Coralline Crag, near Orford Castle, England.

858. **Lucina borealis,** Coralline Crag, near Orford Castle, England.

876. **Murex tortuosus,** Coralline Crag, near Orford Castle, England.

842. **Nassa costata** (Variety of N. reticosa), Red Crag, near Orford Castle, England.

989. **Nassa elegans,** Red Crag, near Orford Castle, England.

863. **Nassa granifera,** Red Crag, near Orford Castle, England.

893. **Nassa granulata,** Red Crag, near Orford Castle, England.

873. **Nassa labiosa,** Coralline Crag, near Orford Castle, England.

882. **Nassa prismatica,** Coralline Crag, near Orford Castle, England.

836. **Nassa reticosa,** Red Crag, near Orford Castle, England.

849. **Natica multipunctata,** Coralline Crag, near Orford Castle, England.

845. **Natica varians,** Red Crag, near Orford Castle, England.

878. **Pecten opercularis,** Coralline Crag, near Orford Castle, England.

885. **Pecten tigrinus,** Coralline Crag, near Orford Castle, England.

887. **Pectunculus glycimeris,** Coralline Crag, near Orford Castle, England.

1915. **Cloth,** Taken from a mummy in the Tomb of Kings, Thebes, Upper Egypt.

1911. **Cone,** From the Cedars of Lebanon, Syria.

2845. **Currency of the United States of Colombia,** 1868.

1604. **Egyptian Scarabeus,** Found on a mummy at Thebes.

1387. **Flint** (Mass of), From which flakes have been broken in pre-historic times, Indre et Loire, France.

1620. **Flint Chips,** Station de Soyon, Ardeche, France.

1621. **Flint Chips,** France.

1622. **Flint Chips,** Grottes de Soyon, Ardeche, France.

1623. **Flint Chips,** Grottes de Moustiers, France.

1624. **Flint Chips,** Station de Toulnagues, Oise, France.

1913. **Fragment from the Head of the Sphynx,** Egypt.

1917. **Fragment of Syenite,** From statue of Remeses the Great, Temple of Memnonium at Thebes, Upper Egypt.

1919. **Fragment from the Wall of a Chamber in the Tomb of King Osirei,** Upper Egypt.

1920. **Fragment of Syenite,** From the square columns in the Temple of Karnak, Thebes, Upper Egypt.

1922. **Fragment from an Unfinished Obelisk,** In the quarries at Asouan, Upper Egypt.

2124. **Fragment from the Hill on which Socrates preached at Athens,** Greece.

2150. **Fragment of the Colosseum,** At Rome.

2152. **Fragment from the Milk Grotto,** Bethlehem.

2153. **Fragment from the Convent of Mar Saba,** Near Jerusalem.

1619. **Flint Hatchet,** Yonne, France.

1767. **Implement** (Modern Stone), Fiji Islands.

1775. **Ideal Restoration of the Neanderthal Man.**

1851. **Image** (Clay), Memphis, Egypt.

1932. **Iron,** From window grating, Pompeii, Italy.

1918. **Jasper,** From the hill over the Tomb of the Kings, Thebes, Upper Egypt.

2468. **Key** (French), Bought in New Orleans as the Key of the Bastile.

2469. **Key of the Seventeenth Century** (French).

1617. **Knife** (Stone), From a lake in Switzerland.

2472. **Lock of the Seventeenth Century** (French).

2147. **Lava** (Fragment of), From the Crater of Vesuvius.

1933. **Lead,** From a kettle set in masonry in a wash-house in Pompeii, Italy.

2151. **Leaning Tower** (Fragment of the), At Pisa, Italy.

1928. **Model of a Walnut in Marble,** Carrara, Italy.

1931. **Mosaic,** From pavement in the Temple of Venus, Pompeii, Italy.

2148. **Mosaic,** Baths of Caracalla, Rome.

1929. **Model of a Potato in Marble,** Carrara, Italy.

1927. **Models of Fruit in Marble** (Apple and Lemon), Carrara, Italy.

2340. **Model of the Rosetta Stone.** The original is preserved in the British Museum.

2145. **Nut Cracker** (Wooden), Made and sold at Interlachen, Switzerland.

2127. **Olive Wood,** Mount of Olives, Jerusalem.

1364. **Paving Stone,** Used for crossings in the streets of Paris, France.

1363. **Paving Stone,** Used in the streets of Paris, France.

1935. **Pebbles and Shells,** From the shore of the Mediterranean at Joppa, Syria.

2158. **Pebbles,** From the shores of the Dead Sea.

2306. **Photograph of the Aztec Calendar.** This stone is built into the walls of the Cathedral in the City of Mexico.

2307. **Photograph of the Cathedral,** In the City of Mexico.

2308. **Photograph of the Aztec Sacrificial Stone,** Preserved in the Museum in the City of Mexico.

2309. **Photograph of an Aztec Statue,** Preserved in the Museum in the City of Mexico.

2310. **Photograph of the Aztec Statue Shaag Mool,** Preserved in the Museum in the City of Mexico.

2311. **Photograph of the Aztec God of War,** Preserved in the Museum in the City of Mexico.

2149. **Portion of Tomb of Cæcilia Metella,** Appian Way, Rome.

1912. **Rock Formation,** In which the tombs are excavated. Tomb of Queens, Thebes, Upper Egypt.

2157. **Water,** From the River Jordan.

FOREIGN SHELLS.

2628. **Amycla vulga,** Gould, Viti Islands.

2562. **Anapa triquetra,** Han, Viti Islands.

2629. **Aplustrum aplustre,** Linn, Society Islands.

2549. **Asaphis tahitensis,** Bernardi, Society Islands.

2644. **Atys cylindrica,** Helbling, Viti Islands.

1758. **Auris midæ,** Philippine Islands.

2361. **Barnacle,** From Japanese waters.

2667. **Batissa tenebrosa,** Hinds, Viti Islands.

2691. **Bulimus korvensis,** Garrett, Viti Islands.

2719. **Bulimus morosus,**Gould, Viti Islands.

2705. **Bulimus ochrostomus,** Garrett, Viti Islands.

2689. **Bulimus seemanni,** Dohrn, Viti Islands.

2566. **Callista affinis,** Gmel., Viti Islands.

2617. **Cancellaria granosa,** Sowb., Australia.

2567. **Cardium orbita,** Reeve, Marquesas Islands.

2714. **Cassidula intuscarinata,** Mousson, Viti Islands.

2585. **Cerithium,** Viti Islands.

2561. **Cerithium carbonarium,** Phil., Viti Islands.

2540. **Cerithium columna,** Sowb., Paumotu Islands.

2618. **Cerithium maculosum,** Mighels, Paumotu Islands.

2579. **Cerithium fucatum,** Pease, Society Islands.

2574. **Cerithium moniliferum,** Kiener, Viti Islands.

2595. **Cerithium morum,** Lam., Viti Islands.

2583. **Cerithium petrosum,** Wood, Viti Islands.

2598. **Cerithium variegatum,** Quoy et G., Samoa Isd's.

2633. **Chiton,** Marquesas Islands.

2560. **Circe pectinata,** Linn, Society Islands.

2646. **Clanculus atropurpurens**, Gould, Samoa Islands.

2610. **Clanculus maxillatus**, Menke, Samoa Islands.

2665. **Collonia granulosa**, Pease, Samoa Islands.

2655. **Columbella albinea**, Kiener, Viti Islands.

2601. **Columbella ligula**, Duclos, Viti Islands.

2653. **Columbella nina**, Duclos, Society Islands.

2592. **Columbella versicolor**, Sowb., Samoa Islands.

2632. **Conus hebræus**, Linn, Society Islands.

2630. **Conus striatus**, Linn, Society Islands.

2607. **Conus tesselatus**, Born., Society Islands.

2634. **Conus textile**, Linn, Society Islands.

2178. **Coral** (?), Amoy, China.

2541. **Coralliophila neratoiclea**, Chem., Society Islands.

2555. **Cylindra fenestrata**, Lamarck, Society Islands.

2662. **Cypræa achatina**, Sol., Society Islands.

2571. **Cypræa arneosa**, Gray, Society Islands.

2568. **Cypræa caput serpentis**, Linn, Samoa Islands.

2582. **Cypræa carneola**, Linn, Paumotus Islands.

2569. **Cypræa helvola**, Linn, Samoa Islands.

2599. **Cypræa irrirata**, Solen, Paumotus Islands.

2570. **Cypræa isabella**, Linn, Society Islands.

2551. **Cypræa mometa**, Linn, Viti Islands.

2622. **Cypræa obvolata**, Lam., Society Islands.

2577. **Cypræa scurra**, Chem., Paumotus Islands.

2559. **Donax fabus,** Chem., Viti Islands.

1326. **Echinoderm,** Acapulco, Mexico.

2641. **Engina alveolata,** Kiener, Viti Islands.

2658. **Engina laerta,** Reeve, Samoa Islands.

2639. **Euchelus atratus,** Gmelin, Viti Islands.

2657. **Eulima lactea,** A. Adams, Society Islands.

2095. **Gorgonia aurantii,** Gulf of California.

2614. **Haliotis pulcherrima,** Chem., Paumotu Islands.

2715. **Helicina maugeriae,** Gray, Raiatea Islands.

2716. **Helicina tectiformis,** Mousson, Viti Islands.

2159. **Helix,** Bethlehem.

2690. **Helix auricoma,** Ferussac, Cuba.

2697. **Helix palleus,** Pease, Moorea Islands.

2552. **Hemicardium unedo,** Linn, Viti Islands.

2600. **Hemicardium mundum,** Reeve, Viti Islands.

2558. **Hiatula elongata,** Lamarck, Viti Islands.

2648. **Hiatula minor,** Desh, Viti Islands.

2651. **Hipponyx acutus,** Quoy, Viti Islands.

2602. **Imbricaria olivæformis,** Swain, Society Islands.

2596. **Lingula anatina,** Linn, Viti Islands.

2597. **Liotia hermanni,** Dunk., Samoa Islands.

2642. **Liotia peronia,** Kiener, Viti Islands.

2656. **Littorina cinerea,** Pease, Marquesas Islands.

2647. **Littorina millegrana,** Phil., Viti Islands.

2575. **Lucina ramulosa,** Gould, Viti Islands.

2616. **Lunella porphyrites,** Martyn, Samoa Islands.

2623. **Mamma virginea,** Phil., Viti Islands.

2674. **Melania cybele,** Gould, Viti Islands.

2681. **Melania samoensis,** Reeve, Samoa Islands.

2621. **Mitra filosa,** Born., Society Islands.

2556. **Mitra robusta,** Reeve, Viti Islands.

2573. **Mitra scabriuscula,** Linn, Society Islands.

2539. **Modiola emarginata,** Reeve, Viti Islands.

2545. **Modiola plumescens,** Dunk., Viti Islands.

2578. **Mytilicardia variegata,** Brug., Viti Islands.

2591. **Nassa acuticosta,** Mont., Viti Islands.

2543. **Nassa albescens,** Dunk., Samoa Islands.

2550. **Nassa arcularia,** Linn, Viti Islands.

2609. **Nassa clathrata,** Kiener, Samoa Islands.

2594. **Nassa crassa,** Koch, Viti Islands.

2650. **Nassa dispar,** A. Adams, Viti Islands.

2576. **Nassa horrida,** Dunker, Samoa Islands.

2590. **Nassa kieneri,** Anton, Samoa Islands.

2553. **Nassa monile,** Kiener, Viti Islands.

2554. **Nassa nodifara,** Powis, Viti Islands.

2649. **Nassa nucleola,** A. Adams, Viti Islands.

2664. **Nassa paupera,** Gould, Samoa Islands.

2603. **Nassa picta,** A. Adams, Viti Islands.

2643. **Natica,** Viti Islands.

2672. **Navicella freyciniti,** Recluz, Viti Islands.

2670. **Navicella undulata,** Mousson, Viti Islands.

2605. **Nerita,** Viti Islands.

2624. **Nerita,** Gambier Islands.

2572. **Nerita lineata,** Linn, Viti Islands.

2557. **Nerita planospira,** Anton, Viti Islands.

2546. **Nerita polita,** Linn, Viti Islands.

2534. **Nerita scabrella,** Phil., Viti Islands.

2669. **Neritina canalis,** Sowb., Marquesas Islands.

2682. **Neritina chrysocolla,** Gould, Samoa Islands.

2679. **Neritina cornea,** Linn, Viti Islands.

2671. **Neritina cornuta,** Reeve, Viti Islands.

2680. **Neritina dispar,** Pease, Cook's Island.

2685. **Neritina helvola,** Gould, Viti Islands.

2687. **Neritina jovis,** Recluz, Marquesas Islands.

2683. **Neritina olivacea,** Le Guillon, Viti Islands.

2684. **Neritina parvula,** Le Guillon, Viti Islands.

2668. **Neritina porcata,** Gould, Samoa Islands.

2675. **Neritina pritchardi,** Dohrn, Viti Islands.

2677. **Neritina propinqua,** Mousson, Samoa Islands.

2676. **Neritina subauriculata,** Recluz, Viti Islands.

2686. **Neritina soulezetiana,** Recluz, Marquesas Islands.

2636. **Sistrum nodosum**, Dunk., Samoa Islands.

2638. **Sistrum rudis**, Dunk., Viti Islands.

2627. **Sistrum thiarellum**, Lam., Viti Islands.

2535. **Solarium perspectivum**, Linn, Viti Islands.

1755. **Spondylus americanus**, China.

2581. **Strombus floridus**, Lam., Paumotus Islands.

2537. **Strombus minimus**, Linn, Viti Islands.

2580. **Strombus plicatus**, Lam., Viti Islands.

2587. **Strombus rugosus**, Sowb., Viti Islands.

2589. **Strombus**, Samoa Islands.

2542. **Struthiolaria scutulata**, Martyn, Australia.

2635. **Tapes variegata**, Sowb., Samoa Islands.

2548. **Tellina stanrella**, Lamarck, Viti Islands.

2660. **Terebra dimidiata**, Linn, Society Islands.

2611. **Torinia trochoidea**, Desh., Society Islands.

2613. **Torinia variegata**, Lam., Society Islands.

2584. **Trigonia pectinata**, Lam., Australia.

2563. **Triton aquatile**, Reeve, Viti Islands.

2626. **Triton truncatum**, Hinds, Viti Islands.

2608. **Trivia annulata**, Gray, Paumotus Islands.

2604. **Trivia nucleus**, Linn, Paumotus Islands.

2588. **Trivia childrini**, Gray, Paumotus Islands.

2536. **Turricula cadaverosa**, Reeve, Society Islands.

2538. **Turricula exasperata**, Chem., Viti Islands.

2720. **Partula rosea,** Brod., Huahina Islands.

2707. **Partula rustica,** Pease, Raiatea Island.

2702. **Partula simulans,** Pease, Moorea Island.

2708. **Partula umbilicata,** Pease, Tahaa Island.

2692. **Partula varia,** Brod., Huahina Island.

2712. **Partula vexillum,** Pease, Moorea Islands.

664. **Pearl Oyster Shell** (Containing large Pearl), South Sea Islands.

2564. **Pecten pallium,** Linn, Paumotu Islands.

2085. **Pina nigra,** China.

2620. **Pisania discolor,** Quoy, Cook's Island.

2793. **Placuna sella,** Gmelin, Indian Ocean.

2666. **Planaxis atrata,** Pease, Marquesas Islands.

2654. **Planaxis brevis,** Quoy, Viti Islands.

2612. **Planaxis lineolata,** Gould, Cook's Island.

2659. **Pleurotoma tigrini,** Lam., Viti Islands.

2652. **Pollia puncticulata,** Dunk., Viti Islands.

2721. **Pythia savaiensis,** Mousson, Wallis Islands.

2663. **Ranella livida,** Reeve, Society Islands.

2615. **Ricinula iodostoma,** Lesson, Marquesas Islands.

2661. **Ruma melanostoma,** Lam., Society Islands.

2645. **Siphonaria atra,** Quoy, Viti Islands.

2637. **Sistrum atromarginatum,** Blainv., Marquesas Islands.

2593. **Sistrum morum,** Lam., Paumotus Islands.

2844. **Parrot Fish,** Japanese waters.

1853. **Nut of the Phytelphas macrocarpa or Vegetable Ivory,** Valleys of the Andes, South America.

2527. **Phyllopteryx foliatus** (?), New Zealand.

2842. **Spider and Eggs,** Supposed to be from the Sandwich Islands.

CALIFORNIA STATE MINING BUREAU.

CATALOGUE

OF THE

STATE MUSEUM OF CALIFORNIA. VOL. 2.

COLLECTIONS MADE BY THE STATE MINING BUREAU.

ALIFORNIA STATE MINING BUREAU.

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LLECTIONS MADE BY THE STATE MINING BUREAU.

CALIFORNIA STATE MINING BUREAU,

HENRY G. HANKS, STATE MINERALOGIST.

CATALOGUE

OF THE

STATE MUSEUM OF CALIFORNIA, VOL. 2,

BEING THE

COLLECTIONS MADE BY THE STATE MINING BUREAU,

FROM APRIL 16, 1881, TO MAY 15, 1884.

SACRAMENTO:
STATE OFFICE, ... JAMES J. AYERS, SUPT. STATE PRINTING.
1884.

MUSEUM CATALOGUE.

3001. **Vegetable Ivory Nuts,** from the South Sea Islands, Island of Ascension or Paupe. Captain A. Kustel.

3002. **Limonite,** Gold Lake, Sierra County, California. M. Lauer.

3003. **Molybdenite,** occurs with quartz in gold mines, Santa Fé, New Mexico. George W. Utter.

3004. **Gold Nugget,** near Placerville, El Dorado County. Purchase.

3005. **Magnetite,** base of Mount Hoffman, south side of the dividing ridge between Mariposa and Tuolumne Counties. J. S. Shilling.

3006. **Magnetite in Gangue (Epidote) (?),** base of Mount Hoffman. J. S. Shilling.

3007. **Fifty Samples of Japanese Woods.** Purchase.

3008. **Half an Ounce of Placer Gold,** Jenny Lind, Calaveras County, California. Purchase.

3009. **Stalactites,** Calaveras Cave, Cave City, Calaveras County, California. George Nichols.

3010. **Copper Sword,** found on Chinook Beach, opposite Astoria. W. E. Dement; brought down from Astoria by Charles A. Hughes.

3011. **Ammonite,** Gas Point, Shasta County, California. J. W. Garden.

3012. **Stalagmite,** Cave City, Calaveras County, California. George Nichols.

3013. **Gold Quartz showing Free Gold,** newly discovered mine near Cave City, Calaveras County, California. Joseph Metich.

3014. **Building Stone,** Mr. Wheat's house, Double Springs, Calaveras County, California.

3015. **Slate,** which crops out over a large extent of country between San Andreas and Cave City, Calaveras County. Strike nearly WNW., dip nearly vertical.

3016. **Diorite, with Section,** cut by Frank Atwood. Croppings near Cave City, Calaveras County, California.

3017. **Chalcopyrite,** Campo Seco, Calaveras County, California.

Taken from a large quantity at Milton awaiting shipment.

3018. **Trachytic Lava (?),** which caps isolated hills between Milton and San Andreas, Calaveras County, California.

3019. **Convoluted Root,** sluiced from a mining claim at Butte City, Amador County, California. Matthew Ryan.

3020. **Sphere of Rock Crystal, Quartz, with included Crystals of Rutile,** Japan. Purchase.

3021. **Photograph of a Flowing Artesian Well.** At Battle Mountain, Lander County, Nevada, one mile from the town.

It yields two thousand gallons of water per hour. The well is one hundred and sixty-five feet deep. Fifty acres of grass, twenty-five acres of grain and vegetables are irrigated by it; and one hundred and fifty acres of desert land are so far reclaimed by it as to be fit for pasturage. The well was sunk by J. A. Blossom, of Battle Mountain.

3022. **Quartz with Remarkable Impressions of Crystals, of a Mineral probably Orthoclase,** from Volcano, Amador County, California. J. W. Collins.

This rare specimen should be carefully studied.

3023. **Clay,** Bodie, Mono County, California. J. P. Manrow.

3024. **Limonite,** Idaho. Robt. Gardiner.

3025. **Carbonate of Magnesia with Silica,** under the microscope, crypto-crystalline. Arroyo Seco, Monterey County, California. Occurs in a vein two feet wide. W. T. Armstrong.

3026. **Rutile,** Graves' Mountain, Lincoln County, Georgia. Exchange.

3027. **Turgite and Limonite,** Salisbury, Canada. Exchange.

3028. **Thompsonite,** Grand Maurais, Minnesota. Exchange.

3029. **Mesolite,** near Belfast, Ireland. Exchange.

3030. **Pelhamite,** Pelham, Massachusetts. Exchange.

3031. **Apatite in Calcite,** Grattan, Canada. Exchange.

3032. **Apatite,** Templeton, Ontario County, Canada. Exchange.

3033. **Apatite,** Grattan, Canada. Exchange.

3034. **Apatite,** Krageroe, Norway. Exchange.

3035. **Apatite with Red Calcite,** Grattan, Canada. Exchange.

3036. **Bronzite, Asbestiform,** Pelham, Massachusetts. Exchange.

3037. **Pyrophyllite,** Graves' Mountain, Georgia. Exchange.

3038. **Phosphorite,** Logrosan, Spain. Exchange.

3039. **Chrysocolla,** Templeton, Ontario County, Canada. Exchange.

3040. **Tremolite in Dolomite,** Lee, Massachusetts. Exchange.

3041. **Menilite,** variety of opal. Coosaw, South Carolina. Exchange.

3042. **Anorthite,** Pelham, Massachusetts. Exchange.

3043. **Keatingite,** Franklin, New Jersey. Exchange.

3044. **Fossil Wood,** Coosaw, South Carolina. Exchange.

3045. **Kaolinite,** Richmond County, Georgia. Exchange.

3046. **Chlorophane,** Trumbull, Connecticut. Exchange.

3047. **Zircon,** Henderson, North Carolina. Exchange.

3048. **Deweylite,** Templeton, Ottawa County, Canada. Exchange.

3049. **Staurolite Crystals,** Morgantown, Fannin County, Georgia.

3050. **Augite,** Templeton, Ottawa County, Canada. Exchange.

3051. **Titanite-Ledererite,** Grattan, Ontario County, Canada. Exchange.

3052. **Augite Crystal,** Jefferson County, New York. Exchange.

3053. **Danburite,** Rossie, Lawrence County, New York. Exchange.

3054. **Margarite,** Trumbull, Ottawa County, Canada. Exchange.

3055. **Emery and Margarite,** Chester, Pennsylvania. Exchange.

3056. **Cookeite, Cleavelandite and Tourmaline,** Chesterfield, Massachusetts. Exchange.

3057. **White Scapolite and Actinolite,** Jefferson County, New York. Exchange.

3058. **Ledererite, with Black Augite,** Grattan, Ontario County, Canada. Exchange.

3059. **Chromiferous Augite,** Wakefield, Ottawa County, Canada. Exchange.

3060. **Knebelite,** Cumberland, R. I.

3061. **Phlogopite,** Burgess, Canada. Exchange.

3062. **Kyanite,** Graves' Mountain, Georgia. Exchange.

3063. **Greenish White Granular Apatite,** Templeton, Ottawa County, Canada. Exchange.

3064. **Pagodite,** Washington, Georgia. Exchange.

3065. **Idocrase,** Templeton, Ottawa County, Canada. Exchange.

3066. **Lazulite,** Graves' Mountain, Georgia. Exchange.

3067. **Wilsonite,** Templeton, Ottawa County, Canada. Exchange.

3068. **Scapolite,** Templeton, Ottawa County, Canada.

3069. **Anthophyllite, Wilcoxite,** Franklin, North Carolina.

3070. **Titanite,** Arendal, Norway.

3071. **Augite and Titanite,** Ottawa, Canada.

3072. **Ledererite Gmelinite**—Grattan, Ottawa County, Canada.

3073. **Phlogopite,** Templeton, Ottawa County, Canada.

3074. **Phosphatic Nodule, Phosphorite,** Lahn, Nassau.

3075. **Phosphorite, Land Phosphate,** Ashley Key, South Carolina.

3076. **Phosphorite,** Caceres, Spain.

3077. **Phosphorite, Cretaceous,** Ardennes, France; with fossil ammonite.

3078. **Phosphorite, River Phosphate,** Coosaw, South Carolina.

3079. **Fossil Shark Teeth, Carcharodon megalodon (Tertiary),** Charleston, South Carolina.

3080. **Fossil Shark Teeth, Carcharodon Angustidens (Tertiary),** Charleston, South Carolina.

3081. **Fossil Horse Teeth (Tertiary),** Charleston, South Carolina.

3082. **Oliva litorata, Pliocene Tertiary Fossil,** Young's Island, sixty-six miles south of Charleston, South Carolina.

3083. **Natica duplicata, Pliocene Tertiary Fossil,** Young's Island, South Carolina.

3084. **Arca incongrua, Pliocene Tertiary Fossil,** Young's Island, South Carolina.

3085. **Tellina alternata, Pliocene Tertiary Fossil,** Young's Island, South Carolina.

3086. **Artemis concentrica, Pliocene Tertiary Fossil,** Charleston, South Carolina.

3087. **Scutella quinquephora, Pliocene Tertiary Fossil,** Young's Island, South Carolina.

3088. **Terebra Sp. (?), Pliocene Tertiary Fossil,** Young's Island, South Carolina.

3089. **Lutraria caniculata. Pliocene Fossil (Tertiary),** Young's Island, South Carolina.

3090. **Pyrula preversa (?), Pliocene Fossil (Tertiary),** Young's Island, South Carolina.

3091. **Pyrula carica, Tertiary Pliocene Fossil,** Young's Island, South Carolina.

RECENT SHELLS—UNIONIDÆ.

3092. **Unio æsophus,** Green, Ohio River.

3093. **Unio alatus,** Say, Ohio River.

3094. **Unio anodontoides,** Lea, Ohio River.

3095. **Unio appressus,** Lea, Ohio River.

3096. **Unio arcæformis,** Lea, Cumberland River, Tennessee.

3097. **Unio arctatus,** Conrad, Alabama.

3098. **Unio arcula (Margaritana),** Lea, Alabama.

3099. **Unio asper,** Lea, Alabama.

3100. **Unio asperrimus,** Lea, Ohio.

3101. **Unio biangulatus,** Lea, Tennessee.

3102. **Unio blandingianus,** Lea, Georgia.

3103. **Unio brumbyanus (?),** Lea, Alabama.

3104. **Unio brevidens (male),** Lea, Tennessee.

3105. **Unio brevidens (female),** Lea, Tennessee.

3106. **Unio brevis,** Lea, Tennessee.

3107. **Unio buckleyi,** Lea, Florida.

3108. **Unio buddianus,** Lea, Florida.

3109. **Unio camptodon,** Say, Louisiana.

3110. **Unio canasangensis,** Lea.

3111. **Unio capax,** Green, Ohio.

3112. **Unio caperatus,** Lea, Tennessee.

3113. **Unio capsæformis (male),** Lea, Tennessee.

3114. **Unio capsæformis (female),** Lea, Tennessee.

3115. **Unio cariosus,** Say, Pennsylvania.

3116. **Unio castaneus,** Lea, Alabama.

3117. **Unio catawbensis,** Lea, North Carolina.

3118. **Unio chunii,** Lea, Texas.

3119. **Unio circulus,** Lea, Ohio.

3120. **Unio circulus (rare var.),** Lea, Ohio.

3121. **Unio clavus,** Lea, Ohio.

3122. **Unio clinchensis,** Lea, East Tennessee.

3123. **Unio coccineus,** Lea, Ohio.

3124. **Unio coelatus,** Conrad.

3125. **Unio cooperianus,** Lea, Ohio.

3126. **Unio complanatus**, Soland, Pennsylvania.

3127. **Unio confragosus**, Lea, Tennessee.

3128. **Unio conradianus**, Lea, Alabama.

3129. **Unio consanguineus**, Lea, Georgia.

3130. **Unio cornutus**, Barnes, Ohio.

3131. **Unio crassidens**, Lam, Ohio.

3132. **Unio cumberlandicus**, Lea, Tennessee.

3133. **Unio curricolus**, Lea, Ohio.

3134. **Unio cylindricus**, Say, Ohio.

3135. **Unio discus**, Lea, Mexico.

3136. **Unio declivis**, Say, Louisiana.

3137. **Unio dehiscens (Margaritana)**, Say, North Carolina.

3138. **Unio deltoides (Margaritana)**, Lea, Ohio.

3139. **Unio distans**, Anthony, Ohio.

3140. **Unio dolebræformis**, Lea, Tennessee.

3141. **Unio donaciformis**, Lea, Tennessee.

3142. **Unio dromas**, Lea, Tennessee.

3143. **Unio estabrookianus**, Lea, Tennessee.

3144. **Unio ebenus**, Lea, Ohio.

3145. **Unio edgarianus**, Lea, Tennessee.

3146. **Unio elegans**, Lea, Ohio.

3147. **Unio ellipsis**, Lea, Ohio.

3148. **Unio fabalis**, Lea, Ohio.

3149. **Unio fassinans**, Lea, East Tennessee.

3150. **Unio fisherianus**, Lea, Maryland.

3151. **Unio foliatus,** Hildreth, Ohio.

3152. **Unio forbesianus,** Lea, Georgia

3153. **Unio fragosus,** Conrad, Ohio.

3154. **Unio fatuus,** Lea, South Carolina.

3155. **Unio fuscatus,** Lea, Florida.

3156. **Unio gabbianus,** Lea, Nicaragua.

3157. **Unio gibbosus,** Barnes, Ohio.

3158. **Unio glans,** Lea, Ohio.

3159. **Unio gracilis,** Barnes, Ohio.

3160. **Unio granadensis,** Lea, Nicaragua.

3161. **Unio graniferus,** Lea, Ohio.

3162. **Unio grayanus,** Lea, China.

3163. **Unio greenii,** Lea, Alabama.

3164. **Unio hanleyanus,** Lea, Georgia.

3165. **Unio haleianus,** Lea, New Orleans.

3166. **Unio haysianus,** Lea, Tennessee.

3167. **Unio higginsii,** Lea, Iowa.

3168. **Unio hildrethianus (Margaritana),** Lea, Ohio.

3169. **Unio holstonensis (Margaritana),** Lea, Tennessee.

3170. **Unio hopetonensis,** Lea, Georgia.

3171. **Unio infucatus,** Conrad, Georgia.

3172. **Unio infuscus,** Lea.

3173. **Unio interruptus,** Lea, Tennessee.

3174. **Unio intermedius,** Conrad, Tennessee.

3175. **Unio iris,** Lea, Ohio.

3176. **Unio irroratus,** Lea, Ohio.

3177. **Unio japanensis,** Lea, Japan.

3178. **Unio jewettii,** Lea, Florida.

3179. **Unio jonesii,** Lea, Georgia.

3180. **Unio lachrymosus,** Lea, Ohio.

3181. **Unio lævissimus,** Lea, Ohio.

3182. **Unio lato marginatus,** Lea, South America.

3183. **Unio lawii,** Lea, Tennessee.

3184. **Unio lens,** Lea, Ohio.

3185. **Unio lesueurianus,** Lea, Tennessee.

3186. **Unio lienosus,** Conrad, North Alabama.

3187. **Unio ligamentinus,** Lam, Ohio.

3188. **Unio luteolus,** Lam, Ohio.

3189. **Unio margaritifera (Margaritana),** Lea, Oregon.

3190. **Unio marginata (Margaritana),** Say, Pennsylvania.

3191. **Unio menkianus,** Lea, Tennessee.

3192. **Unio mentanever,** Raf, Ohio.

3193. **Unio mississippiensis,** Conrad, Lower Mississippi River.

3194. **Unio minor (Margaritana),** Lea, Florida.

3195. **Unio monodontus,** Say, Ohio.

3196. **Unio monroensis,** Lea, Florida.

3197. **Unio mooresianus,** Lea, Alabama.

3198. **Unio multiplicatus,** Lea, Ohio.

3199. **Unio multiradiatus,** Lea, Tennessee.

3200. **Unio nashvillensis,** Lea, Tennessee.

3201. **Unio nasutus,** Say, Pennsylvania.

3202. **Unio negatus,** Lea, Alabama.

3203. **Unio newcombianus,** Lea, Nicaragua.

3204. **Unio novi-eboraci,** Lea, New York.

3205. **Unio obliquus,** Lam, Ohio.

3206. **Unio occidens,** Lea, Ohio.

3207. **Unio orbiculatus,** Hildreth, Ohio.

3208. **Unio osbeckii,** Phillips, China.

3209. **Unio ovatus,** Say, Ohio.

3210. **Unio panciplicatus,** Lea, Texas.

3211. **Unio parvus,** Barnes, Ohio.

3212. **Unio parvulus,** Lea, Alabama.

3213. **Unio percoarctatus,** Lea, North Carolina.

3214. **Unio perplexus,** Lea, Ohio.

3215. **Unio perlatus,** Lea, North Carolina.

3216. **Unio phocolus,** Hildreth, Ohio.

3217. **Unio pictus,** Lea, Tennessee.

3218. **Unio plenus,** Lea, Ohio.

3219. **Unio plicatus,** Lesueur, Ohio.

3220. **Unio propinquus,** Lea, Alabama.

3221. **Unio pressus,** Lea, Ohio.

3222. **Unio purpuratus,** Lam, Lower Mississippi.

3223. **Unio pustulosus,** Lea, Ohio.

3224. **Unio pybasii,** Lea, East Tennessee.

3225. **Unio pyramidatus,** Lea, Ohio.

3226. **Unio radiatus,** Lam, New York.

3227. **Unio rangianus,** Lea, Ohio.

3228. **Unio ravenelianus,** Lea, North Carolina.

3229. **Unio rectus,** Lam, Ohio.

3230. **Unio retusus,** Lam, Ohio.

3231. **Unio rubellinus,** Lea, Georgia.

3232. **Unio rubiginosus,** Lea, Ohio.

3233. **Unio rufusculus,** Lea, South Carolina.

3234. **Unio rugosus,** Barnes.

3235. **Unio santeenses,** Lea.

3236. **Unio scamnatus,** Morlet, Cuba, West Indies.

3237. **Unio scobinatus,** Lea, China.

3238. **Unio securis,** Lea, Ohio.

3239. **Unio solidus,** Lea, Ohio.

3240. **Unio spatulatus,** Lea, Wisconsin.

3241. **Unio spinosus,** Lea, Alabama.

3242. **Unio sparus,** Lea, Georgia.

3243. **Unio stewardsonii,** Lea, Tennessee.

3244. **Unio stramineus,** Conrad, Alabama.

3245. **Unio sulcatus,** Lea, Ohio.

3246. **Unio subtentus,** Say, Tennessee.

3247. **Unio sulcatus,** Lea, Ohio.

3248. **Unio shepardianus,** Lea, Georgia.

3249. **Unio subgibbosus,** Lea, Georgia.

3250. **Unio subovatus**, Lea, Ohio.

3251. **Unio subrotundus**, Lea, Ohio.

3252. **Unio subtentus**, Say, Tennessee.

3253. **Unio tappanianus**, Lea, Pennsylvania.

3254. **Unio tenuissimus**, Lea, Ohio.

3255. **Unio thorntonii**, Lea, Alabama.

3256. **Unio trigonus**, Lea, Ohio.

3257. **Unio trapezoides**, Lea, Louisiana.

3258. **Unio tuberculatus**, Barnes, Ohio.

3259. **Unio tragularis**, Barnes, Ohio.

3260. **Unio tuscumbiensis**, Lea, Tennessee.

3261. **Unio undulata (Margaritana)**, Say, Pennsylvania.

3262. **Unio undulatus**, Barnes, Ohio.

3263. **Unio ventricosus**, Barnes, Ohio.

3264. **Unio verrucosus**, Barnes, Ohio.

3265. **Unio vescoi**, Bourg.

3266. **Unio zigzag**, Lea, Ohio R.

ANODONTÆ.

3267. **Anodonta angulata**, Lea, California.

3268. **Anodonta bridgesii**, Lea, Nicaragua.

3269. **Anodonta californiensis**, Lea, California.

3270. **Anodonta cuneatus**, (**Gnathodon**), Say, Mobile.

3271. **Anodonta decora**, Ohio River.

3272. **Anodonta edentula**, Say, Ohio River.

3273. **Anodonta ferrussaciana**, Lea, Ohio.

3274. **Anodonta grandis,** Say, Upper Mississippi.

3275. **Anodonta harpethensis,** Lea, Tennessee.

3276. **Anodonta imbecillis,** Say, Ohio.

3277. **Anodonta jewettii,** Lea, Nicaragua.

3278. **Anodonta lacustris,** Lea, New Jersey.

3279. **Anodonta lenticularis,** Lea, Nicaragua.

3280. **Anodonta lewisii,** Lea, New Jersey.

3281. **Anodonta monardiensis (Monocondylea),** Lea, Tigris River, Asia.

3282. **Anodonta pavonia,** Lea, Ohio.

3283. **Anodonta plana,** Lea, Ohio.

3284. **Anodonta radiata (Cyrene),** Prime.

3285. **Anodonta salmonia,** Lea, Ohio.

3286. **Anodonta subcylindracea,** Lea, New Jersey.

3287. **Anodonta tenebrosa (Batissa),** Prime (?), Feejee Islands.

3288. **Anodonta undulata,** Say, Pennsylvania.

3289. **Anodonta virgulata,** Lea, North Carolina.

MOLUSCA, MARINE, LAND, AND FLUVIATILE.

3290. **Pecten alquisculcatus,** Carp, California.

3291. **Helisoma ammon,** Gould, California.

3292. **Calliostoma annulatum,** Martyn, California.

3293. **Helix areolata,** Gould, California.

3294. **Murex bicolor,** Wood, Gulf California.

3295. **Heterodonax bimaculatus,** California.

3296. **Olivella boetica,** Carp, California.

3297. **Lucina californica,** Conrad, California.

3298. **Truncatella californica,** Pfeiffer, California.

3299. **Donax californicus,** Conrad, California.

3300. **Mytilus californianus,** Conrad, California.

3301. **Parapholas californicus,** Conrad, California.

3302. **Calliostoma canaliculatum,** Martyn, California

3303. **Cypraea cervinetta,** Kiener, California.

3304. **Helix columbianus,** Gould, Oregon.

3305. **Marginella conspicua,** Carpenter, California.

3306. **Haliotis craeperodii,** Leach, California.

3307. **Helix devia,** Gould, Oregon.

3308. **Helix dupetithouarsi,** Desh, California.

3309. **Purpura emarginata,** Desh, California.

3310. **Monoceros engonatum,** Conrad, California.

3311. **Oliva erythrostoma.**

3312. **Chlorostoma funebrale,** A. Ad. California.

3313. **Purpura fuscat,** Forbes, California.

3314. **Acmaea gigantea,** Gray, California.

3315. **Strombus granulatus,** Wood, Gulf of California.

3316. **Chaetopleura hartweigii,** Carpenter, California.

3317. **Nacella insessa,** Hinds, California.

3318. **Monoceros lapilloides,** Conrad, California.

3319. **Ceropsis minima,** Dall, California.

3320. **Sphaerium nobile,** Prime, Oregon.

3321. **Fluminicola nuttallina,** Lea, Oregon.

3322. **Siphonalia pallido,** Brod, Gulf of California.

3323. **Gyraulus parvus,** Say, California.

3324. **Acmaea patina,** Esch, California.

3325. **Lepidopleurus pectinatus,** Carp, California.

3326. **Acmaea persona,** Esch, California.

3327. **Goniobasis plicifera,** Lea, California.

3328. **Helix polygyrrella,** Bland, East Oregon

3329. **Oliva porphyria,** Linn, Gulf of California.

3330. **Cypraea punctulata,** Gray, Panama.

3331. **Bittium quadrifilatum,** Carp, California.

3332. **Murex radix,** Wood, Gulf of California.

3333. **Acmaea scabra,** Nuttall, California.

3334. **Litorina scutleata,** Gould, California.

3335. **Macoma secta,** Conrad, California.

3336. **Chione simillima,** Sby, California.

3337. **Cypraea sowerbyi,** Swainson, Gulf of California.

3338. **Cypraea spadicea,** Sby, California.

3339. **Niso sp's novo,** Gulf of California.

3340. **Tapes staminea,** Con, California.

3341. **Cryptogramma subimbricata,** Sby, Gulf of California.

3342. **Lazaria subquadrata,** Carp, California.

3343. **Planorbis tumidus,** Pfeiffer, California.

3344. **Helix townsendiana,** Lea, Oregon.

3345. **Olivella undatella,** Lam, Gulf of California.

3346. **Volvarina varia,** Sby, California.

3347. **Tapes var diversa,** Sby, California.

3348. **Oliva venulata,** Lam, Gulf of California.

3349. **Gyraulus vermicularis,** Gould, California.

3350. **Tissurella volcano,** Reeves, Gulf of California.

3351. **Olivella volutella,** Lam, Gulf of California.

ECHINI.

3352. **Encope californica,** A. Ag., Gulf of California.

3353. **Hipponoe depressa,** A. Ag., Gulf of California.

3354. **Strongylocentrotus franciscanus,** A. Ag., Gulf of California.

3355. **Encope grandis,** A. Ag., Gulf of California.

3356. **Strongylocentrotus purpuratus,** Ag., Gulf of California.

3357. **Clypeaster rotundus,** A. Ag., Gulf of California.

3358. **Copper Ore,** Pioneer Mine, Bolinas Bay, Marin County, California. Frank Attwood.

Assay: Gold, trace; silver, twenty-two dollars per ton; copper, ten per cent.

3359. **Inclosing Rock, with Microscopic Section,** Pioneer Mine, Marin County. (See No. 3358.) Frank Attwood.

3360. **Anglesite Fluor Spar and Wulfenite,** Castle Dome District, Arizona. F. H. Staples.

3361. **Hematite and Magnetite,** near Crescent Mills, Plumas County, California. A. Jacobs.

3362. **Bill or Snout of the Saw Fish,** Pristis Antiquorum.

3363. **Cypress Wood, Cupressus macrocarpa,** Monterey County, California. J. Z. Davis.

So named on account of its very large fruit, often over an inch in diameter.

3364. **Vase of Granite,** from the quarries of Penryn, Placer County, California. Griffith Griffith.

3365. **Block of Basalt.** Luther Wagoner.

Used for street pavement. Mt. Pisgah quarries, one mile south of Petaluma, Sonoma County, California.

3366. **Gold from Quartz,** Crescent Mills, Plumas County, California. Barney Tutt.

3367. **Hematite.** A. M. Thrift.

Township four north, range ten east, opposite section three, in unsurveyed land, two miles southeast of Campo Seco, Calaveras County, California. Said to be in large quantities, and to be of easy access.

3368. **Sulphur, Cinnabar, and Gold,** large specimen; Manzanita Mine, Sulphur Creek, Colusa County, California. C. B. Hughes.

3369. **Rich Copper Ore, principally Cuprite,** Reward Mine, Genesee Valley, Plumas County, California. S. E. Swearingen.

3370. **Grape Shot and Musket Ball.** Captain H. A. Gorley.

Found on Washington's first battle ground, Fort Necessity, which he defended with five hundred Virginia militia, against one thousand five hundred French and Indians, under Jamonville. Having dictated the terms of his own surrender, Washington marched out with drums beating and colors flying on the fourth of July, 1754.

3371. **Indian Relic,** Hoostan Nalan, Indian Rancheria, Curry County, Oregon. W. B. Mason.

3372. **Limestone Concretion Bearing a Curious Resemblance to a Fossil Turtle.** J. Z. Davis.

Found seven miles northeast of Santa Cruz, and a little east of Big Tree Grove.

3373. **Silver Ore,** Mina Faisan, Panuco Mining Company, Sinaloa, Mexico. Mark Cornish.

3374. **Phosphate of Alumina, probably Trolleite,** Columbus, Esmeralda County, Nevada. C. F. Allen.

3375. **Nitrate of Soda, Crude,** Niter Hill, near Lovelock's Station, Humboldt County, Nevada. A. J. Ralston.

3376. **Refined Nitrate of Soda,** Lovelock's Station, Humboldt County, Nevada. (See No. 3375.)

Crystallized for the State Mining Bureau by Ad. Sommer, manufacturing chemist.

3377. **Borax, Refined,** Teel's Marsh, Esmeralda County, Nevada. William T. Coleman & Co., Agents for the works.

3378. **Borax, Refined and Pulverized,** Smith Bros. Works, Esmeralda County, Nevada. William T. Coleman & Co., Agents.

3379. **Borax Refined,** San Bernardino County, California. William T. Coleman & Co., Agents.

3380. **Borax, Crude; Natural Product, First Quality,** Smith Bros., Esmeralda County, Nevada.

3381. **Borax, Crude; Natural Product, Second Quality,** Smith Bros., Esmeralda County, Nevada.

3382. **Ulexite, Borate of Lime,** Smith Bros., Esmeralda County, Nevada.

3383. **Rock Specimen, Undetermined.** M. T. Grogan.
Five miles from Shingle Springs, and four miles northeast of Latrobe, El Dorado County, California.

3384. **Borax, Granulated,** Teel's Marsh, Esmeralda County, Nevada. William T. Coleman & Co., Agents.

3385. **Crude Soda,** Big Soda Lake, Churchill County, Nevada. John Fleming.

3386. **Sal Soda, made from Crude Soda,** Big Soda Lake, Churchill County, Nevada. John Fleming.

3387. **Marble,** from the Cave at Cave City, Calaveras County, California.

3388. **Copper Ore,** Eagle Mine, Quail Hill, Calaveras County, California. A. S. Church.

3389. **Bedrock,** Malakoff Mine, North Bloomfield, Nevada County, California.

3390. **Bedrock,** Malakoff Mine, North Bloomfield, Nevada County, California.

3391. **Bowlder,** Polar Star Mine, Dutch Flat, Placer County, California.

3392. **Cement with Gold,** Chimney Rock, Green Valley claim, near Dutch Flat, Placer County, California. H. Boek.

3393. **Pipe Clay,** Malakoff Mine, North Bloomfield, Nevada County, California.

3394. **Calcite with Pyrite,** Malakoff Mine, North Bloomfield, Nevada County, California.

3395. **Bedrock,** Malakoff Mine, North Bloomfield, Nevada County, California.

3396. **Rock used in Paving the Flumes,** Milton Hydraulic Mine, Nevada County, California.

3397. **Bedrock,** Gold Run, Placer County, California.

3398. **Quartzite,** Malakoff Mine, North Bloomfield, Nevada County, California.

3399. **Bedrock,** Cherokee, Nevada County, California.

3400. **Bedrock at Flume,** Milton Mine, Nevada County, California.

3401. **Bedrock,** American Mine, near North San Juan, Nevada County, California.

3402. **Porphyry Bedrock,** Malakoff Mine, North Bloomfield, Nevada County, California.

3403. **Hard Cement with Gold,** Malakoff Mine, North Bloomfield, Nevada County, California.

3404. **Chalcedonic Bowlder,** Polar Star Mine, Dutch Flat, Placer County, California.

3405. **Rock Specimen,** Bridge at Yuba River, below Blue Tent, Nevada County, California.

3406. **Geode of Calcite,** Sweetwater, Nevada County, California.

3407. **Bedrock at Flume,** Milton Mine, Nevada County, California.

3408. **Bedrock of Manzanita Mine,** Nevada City, Nevada County, California.

3409. **Bowlder,** Malakoff Mine, North Bloomfield, Nevada County, California.

3410. **Bedrock at End of Flume (Gneiss),** Milton Mine, Nevada County, California.

3411. **Pyrite, found in Lignite (Large Tree),** Malakoff Mine, North Bloomfield, Nevada County, California.

3412. **Copper Shale,** Sweetland Creek Mine, Nevada County, California.

3413. **Pyrolusite, found in Copper Shale,** Sweetland Creek Mine, Nevada County, California. (See No. 3412.)

3414. **Bedrock,** Malakoff Mine, North Bloomfield, Nevada County, California.

3415. **Serpentine (?),** Bald Prairie, Placer County, California.

3416. **Jasper,** Bald Prairie, Placer County, California. Charles Purdy.

3417. **Gold Quartz,** Phil. Sheridan Mine, Granite Mining District, Grant County, Oregon. C. S. Miller.

3418. **Porphyry Bowlder,** Polar Star Mine, Dutch Flat, Placer County, California.

3419. **Bowlder,** Polar Star Mine, Dutch Flat, Placer County, California.

3420. **Calcite,** Polar Star Mine, Dutch Flat, Placer County, California.

3421. **Gold Quartz,** Murchie Mine, Nevada County, California.

3422. **Jaspery Iron Ore,** northwest corner of Sonoma County, near Point Arena. L. L. Bullock.

3423. **Silicified Wood,** Omega, Nevada County, California. Duncan McLaughlin.

3424. **Gold Quartz,** Champion Mine, Yuba River, near Omega, Nevada County, California. Duncan McLaughlin.

3425. **Silver Ore,** Waterman Mine, Grapevine District, San Bernardino County, California. A. M. Lawver.

3426. **Silver Ore,** El Robles Mine, Sinaloa, Mexico, seventy miles from Mazatlan. Joseph Wasson.

3427. **Silver Ore,** Jackson Mine, Esmeralda County, Nevada. William H. Sears.

3428. **Lignite,** Oregon. Oregon Steam Navigation Company.

3429. **Gold Quartz,** Golden Hero Mine, near Copperopolis, Calaveras County, California. J. K. Hicks.

3430. **Granite of which the Mormon Temple is built,** Salt Lake City, Utah. J. W. Wilkinson.

3431. **Silver Ore,** Monumental Mine, Granite Mining District, Grant County, Oregon. C. S. Miller.

3432. **Wall Rocks of Monumental Mine,** Grant County, Oregon. (See No. 3431.)

3433. **Foliated Talc,** Altaville, Calaveras County, California.

3434. **Silicified Wood,** Nevada County, California. J. Z. Davis.

3435. **Pig Iron,** Oregon Iron Company, Oswego, Clackamas County, Oregon. Allen & Lewis, Agents.

3436. **Iron Ore, Prosser Iron Ore,** Oregon Iron Company. Allen & Lewis, Agents.

3437. **Diatomaceous Earth,** Cayetano Ranch, Santa Clara County, California. J. E. Bowman.

3438. **Jefferisite,** Alaska. Thomas McCully.

3439. **Psilomelane,** Alaska. J. H. McMillan.

3440. **Arenaceous Limestone,** found in the bed of the river, near Yreka, Siskiyou County, California. Dr. F. G. Hearn.

3441. **Borings from James Phelan's Well.** J. Z. Davis.

O'Farrell Street, San Francisco: A, 185 feet deep; B, 192; C, 200; D, 225; E, 240; F, 245; G, 251; H, 260; I, 265.

3442. **Silver Ore,** Dundee Mine, Globe District, Pinal County, Arizona. C. Fraser.

3443. **Actinolite,** twelve miles east of Gilroy, Santa Clara County, California. William Brannan.

3444. **Silicified Wood,** Chalk Bluffs, Nevada County, California. John Spaulding, Superintendent of South Yuba Mining and Milling Company.

A large quantity and great variety of specimens.

3445. **Gold in Porphyry,** Banghart Mine, ten miles north of Shasta, Shasta County, California. W. Banghart.

3446. **Accipiter fringillarius,** male Sparrow-hawk, Europe. J. Z. Davis.

3447. **Aprosmictus dorsalis,** male, Moluccan Islands. J. Z. Davis.

3448. **Aprosmictus scapulatus,** male King Parrot, Australia. J. Z. Davis.

3449. **Argus gigantea,** male Argus Pheasant, Java. J. Z. Davis.

3450. **Buceros plicatus,** male Hornbill, Moluccan Islands. J. Z. Davis.

3451. **Buceros plicatus,** female Hornbill, Moluccan Islands. J. Z. Davis.

3452. **Bucco lathami,** male Latham's Bucco, Moluccan Islands. J. Z. Davis.

3453. **Brachypodus melanocephalus,** male Black-headed Flycatcher, Central America. J. Z. Davis.

3454. **Caciculus melanicterus,** male Black-headed Oriole, Central America. J. Z. Davis.

3455. **Cacicus persicus,** male, Central America. J. Z. Davis.

3456. **Calliste gyloroides,** male Tricolor Finch, Central America. J. Z. Davis.

3457. **Calliste tricolor,** male Tricolor Finch, Central America. J. Z. Davis.

3458. **Carpophaga halmaheira,** male Black Water-pigeon, New Guinea. J. Z. Davis.

3459. **Ceriomis satyra,** female Horned Tragopan, India.

3460. **Ceryle Americana,** male American King-fisher, Texas. J. Z. Davis.

3461. **Chrysolampus meschitus,** male Ruby-topaz Humming-bird, Central America. J. Z. Davis.

3462. **Chrysolema rubinea,** male Ruby-emerald Humming-bird, Central America. J. Z. Davis.

3463. **Cincinnurus regius,** male King Bird-of-Paradise, Celebes. J. Z. Davis.

3464. **Cincinnurus regius,** female King Bird of Paradise, Celebes. J. Z. Davis.

3465. **Cinniris senegalensis,** male Senagal Nectarine, West Africa. J. Z. Davis.

3466. **Clytolama rubinea,** male Ruby-emerald Humming-bird, Brazil. J. Z. Davis.

3467. **Cœreba cœrulea,** male Blue Creeper, Central America. J. Z. Davis.

3468. **Cœreba viridis,** male Green Finch, Central America. J. Z. Davis.

3469. **Colomba australis,** male, Madagascar. J. Z. Davis.

3470. **Conurus carolinensis,** male Carolina Parroquet, Florida. J. Z. Davis.

3471. **Coracias ceruleus,** male Blue Roller, West Africa. J. Z. Davis.

3472. **Coracias ganogaster,** male Purple Roller, West Africa. J. Z. Davis.

3473. **Cynanthus cyanurus,** male, Central America. J. Z. Davis.

3474. **Dacius cayanus,** male Blue Warbler, Cayenne. J. Z. Davis.

3475. **Danygnathus sumatranus,** male, Sumatra. J. Z. Davis.

3476. **Danygnathus sumatranus,** female, Sumatra. J. Z. Davis.

3477. **Eulabes anais,** male yellow-billed Mynch, New Guinea. J. Z. Davis.

3478. **Entomyza cyanotis,** male, Moluccan Islands. J. Z. Davis.

3479. **Eos rubrifrons,** male, New Guinea. J. Z. Davis.

3480. **Erythromota antiqua,** male Emerald Humming-bird, Central America. J. Z. Davis.

3481. **Eurylaimus macrorynchus,** male Linnæus Gaper, South America. J. Z. Davis.

3482. **Goura coronata,** male crowned Pigeon, New Guinea. J. Z. Davis.

3483. **Gracticus robustus,** male Red Crow-shrike, New Guinea. J. Z. Davis.

3484. **Gracticus (?),** male Crow-shrike, New Guinea. J. Z. Davis.

3485. **Halcyon australasia,** male, Timor. J. Z. Davis.

3486. **Halcyon albicolata,** male White-throated King-fisher, Moluccan Islands. J. Z. Davis.

3487. **Halcyon chelicuti,** male Chelicut King-fisher, West Africa. J. Z. Davis.

3488. **Halcyon indica,** male, New Guinea. J. Z. Davis.

3489. **Halcyon pileata,** male, New Guinea. J. Z. Davis.

3490. **Irene puella,** male Black-backed Blue-shrike, Java. J. Z. Davis.

3491. **Lamprocolius chrysotus,** male Glotty Starling, West Africa. J. Z. Davis.

3492. **Lamprocolius cyanocephalus,** male Blue-headed Glotty Starling, West Africa. J. Z. Davis.

3493. **Lamprotila platyrhyncha,** male, Celebes. J. Z. Davis.

3494. **Lepidogrammus cummingii,** male Philippine Cuckoo, Philippine Islands. J. Z. Davis.

3495. **Lesbia amarylis,** male Longtailed Humming-bird, Central America. J. Z. Davis.

3496. **Manacus candii,** male Manakin, Central America. J. Z. Davis.

3497. **Masiterna pygmœa,** male Pigmy Parrot, New Guinea. J. Z. Davis.

3498. **Meliphaga sericea,** male Long-billed Honey-sucker, Australia. J. Z. Davis.

3499. **Merops hirundinaceus,** male, Africa. J. Z. Davis.

3500. **Nyctiomis amictus,** male, India. J. Z. Davis.

3501. **Nectarina natalensis,** male Natal Nectarine, Natal. J. Z. Davis.

3502. **Oriolus kundoo,** male Indian Oriole, India. J. Z. Davis.

3503. **Palœornis barbatus,** male Alexandrine Parroquet, Madagascar. J. Z. Davis.

3504. **Palœornis barrabandi,** male Barriband's Parrot, New Guinea. J. Z. Davis.

3505. **Palœornis mallacensis,** male Rose-winged Parroquet, Madagascar. J. Z. Davis.

3506. **Paradisea calva,** male Bald Bird-of-Paradise, New Guinea. J. Z. Davis.

3507. **Paradisea papuensis,** male Emerald Bird-of-Paradise, New Guinea. J. Z. Davis.

3508. **Paradisea papuensis,** female Emerald Bird-of-Paradise, New Guinea. J. Z. Davis.

3509. **Paradisea papuensis,** young male Emerald Bird-of-Paradise, New Guinea. J. Z. Davis.

3510. **Pardalotus punctatus,** male Diamond-bird, Australia. J. Z. Davis.

3511. **Phasianus cotchicus,** male English Pheasant, Europe. J. Z. Davis.

3512. **Pholidanges Lucogaster,** male Glistening Starling, West Africa. J. Z. Davis.

3513. **Phylornis gerdoni,** male, India. J. Z. Davis.

3514. **Pitta bengalensis,** male Bengal Pitta, India. J. Z. Davis.

3515. **Pitta elegans,** male Yellow-headed Pitta, Celebes. J. Z. Davis.

3516. **Pitta maxima,** male, New Guinea. J. Z. Davis.

3517. **Platycerus tennantii,** male, Australia. J. Z. Davis.

3518. **Psittacus capistratus,** male, New Guinea. J. Z. Davis.

3519. **Psittacus capistratus,** female, New Guinea. J. Z. Davis.

3520. **Ptilinopus perousii,** male, New Guinea. J. Z. Davis.

3521. **Ptilonorynchus sericus,** male Satin-bird, Australia. J. Z. Davis.

3522. **Ramphastos cuvierii,** Cuvier's Toucan, Central America. J. Z. Davis.

3523. **Rupicola aurantia,** male Cock of the Rocks, Cayenne. J. Z. Davis.

3524. **Rupicola peruviana,** male Peruvian Cock of the Rocks, Peru. J. Z. Davis.

3525. **Sericulus mellinus,** male Regent-bird, Australia. J. Z. Davis.

3526. **Sturnus vulgaris,** male European Starling, Europe. J. Z. Davis.

3527. **Tachyphonus cristata,** male, Central America. J. Z. Davis.

3528. **Tanagra rubra,** male Scarlet Tanager, Brazil. J. Z. Davis.

3529. **Tanisiptera dea,** male, New Guinea. J. Z. Davis.

3530. **Thaumalea picta,** male Golden Pheasant, China. J. Z. Davis.

3531. **Tricoglossus iris,** male Variegated Parrot, New Guinea. J. Z. Davis.

3532. **Tricoglossus iris,** female Variegated Parrot, New Guinea. J. Z. Davis.

3533. **Trochylus pichincha,** male Blue-breasted Humming-bird, Central America. J. Z. Davis.

3534. **Trogon elegans,** male Elegant Trogon, Guatemala. J. Z. Davis.

3535. **Trogon resplendens,** male Resplendent, Trogon, Guatemala. J. Z. Davis.

3536. **Turacus purpureus,** male Purple-winged Touraco, West Africa. J. Z. Davis.

3537. **Turtur risorius,** female Collared Turtle-dove, Europe. J. Z. Davis.

3538. **Silver Ore,** Unknown Mine, Yankee Fork Mining District, Salmon River Mountains, Custer County, Idaho. William B. Hyde.

3539. **Silver Ore,** Custer Mine, Yankee Fork Mining District, Idaho. William B. Hyde.

3540. **Silver Ore with Cinnabar,** Barcelona Mine, Nye County, Nevada. (See No. 2412.) W. Craig.

3541. **Silver Ore, Horn Silver,** Kentucky Mine, Sweetwater Range of Mountains, Mono County, California. J. S. Frost.

3542. **Cast of the Horns of the Bison latifrons** (Leidy), Cincinnati Society of Natural History.

3543. **Unio crassidens,** Lam, Ohio River.

3544. **Unio cicatricosus,** Ohio River.

3545. **Unio varicosus,** Lea, Ohio River.

3546. **Unio pressus,** Lea, Ohio River

3547. **Unio phaseolus,** Hil'd, Ohio River.

3548. **Calcite,** Nevada.

3549. **Pearl Spar Dolomite,** Niagara River, New York.

3550. **Cryolite,** Greenland.

3551. **Lithographic Stone,** Kentucky.

3552. **Quartz Crystals,** Arkansas.

3553. **Red Granite,** Missouri.

3554. **Copper Pyrites,** Rockwood, Tennessee.

3555. **White Steatite,** Massachusetts.

3556. **Native Copper,** Lake Superior.

3557. **Actinolite in Talc,** Newfane, Vermont.

3558. **Mammillary Chalcedony** (Geode), Iowa.

3559. **Gypsum, Plumose,** Kentucky.

3560. **Black Tourmaline in Quartz,** Ohio.

3561. **Green Talc (Foliated) in Calcite,** Ohio.

3562. **Calcite, Dog Tooth Spar,** Niagara Falls, New York.

3563. **Beryl**, Bolton, Massachusetts.

3564. **Hematite**, Rockwood, Tennessee.

3565. **Galena Crystals**, Galena, Illinois.

3566. **Tourmaline in Steatite**, Plymouth, New Hampshire.

3567. **Sphalerite (Zinc Blende) in Calcite**, Liberty, Kentucky.

3568. **Rusophycus bilobatus**, lower silurian fossil, Cincinnati Group, Ohio.

3569. **Lithostrotion basaltiformis**, sub-carboniferous fossil, Ohio.

3570. **Columnaria alveolata**, lower silurian fossil, Cincinnati Group, Madison, Indiana.

3571. **Dalmantis linularis**, lower silurian fossil, Niagara Group, New York.

3572. **Monticulipora filiasa**, lower silurian fossil, Cincinnati Group, Hamilton, Ohio.

3573. **Megalomus canadense**, lower silurian fossil, Niagara Group, Gault, Ontario.

3574. **Endoceras magniventrum**, lower silurian fossil, Cincinnati Group, Hamilton County, Ohio.

3575. **Pentamerus oblongus**, upper silurian fossil, Niagara Group, Ohio.

3576. **Gold Quartz**, Mohmann Mine, Big Oak Flat, Tuolumne County, California. A. D. Miesegaes.

3577. **Ferruginous Quartz with gold in a cavity formerly occupied by a large crystal of Pyrite**, Modesto Mine, Beveridge Mining District, Inyo County, California. T. McDonough.

3578. **Piece of Indian Sculpture** (very fine), British Columbia. George Kinney.

3579. **Crystallized Mineral containing carbonates of Copper and Lime,** Copper Queen Mine, Bisbee, Arizona. George Madeira.

It is anhydrous, and gives a white precipitate with ammonia. A full analysis will be made of it in the future.

3580. **Calcite Crystals,** Argus Mountains, Inyo County, California. Mrs. S. A. Gale.

3581. **Spear Head of Obsidian,** San Rafael, near the cemetery. G. F. Beardsley.

3582. **Country Rock with Section (Trachyte),** Rocky Bar Mine, Grass Valley, Nevada County, California. J. D. Coughlin.

3583. **Country Rock with Section for the Microscope (Trachyte),** Rocky Bar Mine, Grass Valley, Nevada County, California. J. D. Coughlin.

3584. **Diallogite Crystals** (very fine), Colorado Mine No. 2, Monitor District, Alpine County, California. George F. Beardsley.

3585. **Magnetite,** near the New England Mills, Placer County, California. J. R. Scupham.

3586. **Cement Nodules,** Glenbrook, Lake County, California. H. A. Aldrich.

Found in a bluish clay covering an area of ten acres.

3587. **Argentiferous Galena, showing a radiated structure,** Brown Monster Mine, Inyo County, California. S. D. Woodhull.

3588. **Vivianite,** Brea Ranch, Los Angeles County, California. J. W. Redway.

3589. **Nodules or Obscure Fossils,** Buena Vista Mountain, near Cerro Gordo, Inyo County, California. M. A. Wheeler.

These are the same as No. 1512, which were thought to be paleozoic fossils.

3590. **Ulexite, showing the two varieties.** H. S. Durden.

Ten tons of boracic acid have been produced from this material by the Phœnix Chemical Works, at the town of Columbus, Esmeralda County, Nevada.

3591. **Boracic Acid,** manufactured by the Phœnix Chemical Works, Esmeralda County, Nevada. H. S. Durden.

3592. **Calcite Botryoidal,** Cresswell Ranch, Curry County, Oregon. W. B. Mason.

3593. **Chloride of Silver, Fused.** William Hall.

Obtained from ten pounds of ore from the Cerro Pasco Mines of Peru.

3594. **Indian Stone Implement,** San Pablo, Contra Costa County, California. J. Z. Davis.

This was probably used in spinning. There are in the Museum six others of like form and size from different localities in the State.

3595. **Spear Head of Obsidian,** found with 3594, at San Pablo, Contra Costa County, California. J. Z. Davis.

3596. **Gold Quartz** (very rich), Keynote Mine, Beveridge District, Inyo County, California. J. H. Holt.

This specimen is peppered with fine gold which can only be seen by close inspection.

3597. **Tusk of Mammoth (Elephas primigenious),** Elephant Point, Behring Straits. James Wayson.

3598. **Large Specimen of Coal,** shores of Arctic Ocean. James Wayson.

3599. **Iron Ore with Fossils,** found with 3598, shores of the Arctic Ocean. James Wayson.

3600. **Perfect Tusk of the Hairy Mammoth (Elephas primigenious).** Lon. Cox, Chief Engineer of the Steamer St. Paul.

Brought from two thousand miles up the Yukon River, Alaska. This is a rare, beautiful, and interesting specimen.

3601. **Chrome Iron of High Grade,** from within half a mile of the town of Yreka, Siskiyou County, California. Dr. F. G. Hearn.

3602. **Aragonite,** white and pure, Johnsonville, Plumas County, California. W. M. Pratt.

This mineral has the property of being easily reduced to a powder, and will no doubt be used as a substitute for chalk in chemical manufacture. Occurs in large quantities nine miles from Jamisons, in Little Long Valley. Four hundred feet wide. Lime has been burned said to be of good quality.

3603. **Graphite,** Wood River, Idaho. H. B. Maize.

3604. **Marble, Water-worn,** bed of the Tuolumne River. Lewis Costa.

3605. **Silver Ore** (large specimen), Phil. Sheridan Mine, Granite Creek Mining District, Grant County, Eastern Oregon. C. S. Miller.

This specimen contains chalcosite or tetrahedrite; rich in silver and free gold. Assay value, one hundred and sixty dollars per ton. (See No. 3431.)

3606. **Compressed Asphaltum Paving Blocks.** L. L. Robinson.

3607. **Amethyst,** Lake Superior.

3608. **Garnets detached from Garnetiferous Mica Schist.** Lauren E. Crane.

Found at the mouth of Stickeen River, Alaska. (See Nos. 2828 and 3612.)

3609. **Copper-stained Quartz,** Sierra Madre, Arispe, Sonora, Mexico. J. C. Pilsbury.

In which there is a cavity containing two perfect crystals of cerargyrite or horn silver, surrounded with bright metallic silver. A very rare and beautiful specimen.

3610. **Fibrous Bituminous Artificial Stone Block for street Pavements,** manufactured by the Cosmopolitan Paving and Asphaltum Company, and donated by Robert Skinner.

3611. **Crystallized Sulphur,** twenty miles north of the Humboldt Station, Central Pacific Railroad, Humboldt County, Nevada. H. W. Faust.

3612. **Slab of Mica Schist with Garnets,** mouth of Stickeen River, Alaska. Donated by W. J. Buswell, Wrangel, Alaska, and brought down by Lieutenant Commander Henry E. Nichols, of the Steamer Hassler.

3613. **Murchisonia bicincta,** Hall, lower silurian fossil, Trenton limestone, Watertown, New York. D. S. Marvin.

3614. **Crinoidal column,** upper silurian fossil, Ohio. D. S. Marvin.

3615. **Orthis occidentalis,** lower silurian fossil, Trenton limestone, Watertown, New York. D. S. Marvin.

3616. **Modiolopsis modiolaris,** Con, lower silurian fossil, Loraine shale, Watertown, New York. D. S. Marvin.

3617. **Petraia corniculatum,** upper silurian fossil, Niagara Group, Ohio. D. S. Marvin.

3618. **Rhynchonella increbescens,** R. Capax, lower silurian fossil, Trenton limestone, New York. D. S. Marvin.

3619. **Triplesia (Camarella) Sp.** (?), lower silurian fossil, Trenton limestone, New York. D. S. Marvin.

3620. **Murchisonia subonica** (?), lower silurian fossil, Trenton limestone, New York. D. S. Marvin.

3621. **Orthoceras Sp.** (?), lower silurian fossil, Loraine shale, New York. D. S. Marvin.

3622. **Bucania bidorsata,** Hall (Bellerophon bidorsatus), lower silurian fossil, Trenton limestone, New York. D. S. Marvin.

3623. **Chetetes lycoperdon** (Monticulipora lycoperdon, hemispherical and ramose forms, lower silurian fossil, Trenton limestone, Watertown, New York. D. S. Marvin.

3624. **Strophomena Sp.** (?), lower silurian fossil, Trenton limestone, New York. D. S. Marvin.

3625. **Trematis Sp.** (?), lower silurian fossil, Trenton limestone, Watertown, New York. D. S. Marvin.

3626. **Orthoceras arcuoliratum,** Hall, lower silurian fossil, Trenton limestone, Watertown, New York. D. S. Marvin.

3627. **Orthoceras tenuiseptum,** Hall, lower silurian fossil, Black River limestone, Watertown, New York. D. S. Marvin.

3628. **Palæarca Sp.** (?), lower silurian fossil, Trenton limestone, New York. D. S. Marvin.

3629. **Strophomena rhomboidalis,** lower silurian fossil, Trenton limestone, Champlain, New York. D. S. Marvin.

3630. **Placer Gold,** Hoosier Bar, Middle Fork of American River, eight miles from Auburn, Placer County, California. L. T. Flanagan.

3631. **Crytolites compressus,** Con., lower silurian fossil, Trenton limestone, Watertown, New York. D. S. Marvin.

3632. **Orthis erratica,** Hall, lower silurian fossil, Hudson River Group, New York. D. S. Marvin.

3633. **Leptæna sericea,** Sow, lower silurian fossil, Trenton limestone, New York. D. S. Marvin.

3634. **Heliophyllum halli,** Edwards & Haime, Devonian fossil, Hamilton period, Ohio. D. S. Marvin.

3635. **Illænus crassicauda,** Wahlenberg, lower silurian fossil, Trenton limestone, New York. D. S. Marvin.

3636. **Phytopsis cellulosum,** Hall, lower silurian fossil. Bird's Eye limestone, Watertown, New York. D. S. Marvin.

3637. **Bathotrephis succulens,** Hall, lower silurian fossil, Trenton limestone, Watertown, New York. D. S. Marvin.

3638. **Patent Compressed Paving Tile or Slab,** Asphaltum base with cement top. Robert Skinner.

3639. **Iron Ore** (Magnetite), Solid Iron Mine, Indian District, Mono County, California. D. P. Tarpy.

Analysis by Faulknau & Reese: Peroxide of iron, 93.00; silica, 7.00; total, 100.00; graphite and sulphide of copper, traces.

3640. **Favosites niagarensis,** Hall, upper silurian fossil, Niagara period, New York. D. S. Marvin.

3641. **Ambonychia amygdalina,** Lower silurian fossil, Trenton limestone, New York. D. S. Marvin.

3642. **Endoceras proteiforme,** Hall, lower silurian fossil, Utica shale, New York. D. S. Marvin.

3643. **Orthoceras junceum,** Hall, lower silurian fossil, Trenton limestone, New York. D. S. Marvin.

3644. **Soapstone or Steatite,** Cut in the form of bricks and of the same size, to be used as substitute for fire-brick, Lewis, Mariposa County, California. R. M. Collins.

3645. **Natural Sandstone cast of a very large Bamboo, or Concretion strongly resembling the same,** Near Cholame, San Luis Obispo County, California. J. Z. Davis.

3646. **Sandstone Concretion resembling an Obscure Fossil Fish,** Near Cholame, San Luis Obispo County, California. David Russell.

3647. **Glass Model of the Guadalupe Quicksilver Mine,** Santa Clara County, California, made by Charles T. Healy, who is the originator of the idea, and presented by B. B. Thayer.

This is a new and very effective mode of showing the underground workings of a mine.

3648. **Miniature Glass Model of the New Almaden Quicksilver Mine,** Santa Clara County, California. Made and presented by Charles T. Healy.

3649. **Brecciated Lava,** Found in immense cliffs, Little Shasta River, Shasta County, California. Dr. F. G. Hearn.

3650. **Photograph of "Gorilla niger,"** male, from a specimen in the Museum at Lubeck, Germany. James Behrens.

3651. **Photograph of Gorilla,** male and female, from specimens in the Museum at Lubeck, Germany. James Behrens.

3652. **Photograph of "Gorilla gina,"** female and young, from specimens in the Museum at Lubeck, Germany. James Behrens.

3653. **Photograph of the Mammoth "Elephas primigenious."** Professor Henry A. Ward.

Restored from measurements from the bones in the Royal Museum at Stuttgart, and data afforded by the St. Petersburg specimen.

3654. **Vertebræ of Whale,** Monterey Whaling Station. J. Z. Davis.

3655. **Rib of a Whale,** Monterey Whaling Station. J. Z. Davis.

3656. **Jawbone of a Whale,** Monterey Whaling Station. J. Z. Davis.

3657. **Rhodonite and Pyrolusite,** Section 14, Township 1 north, Range 16 east, M. D. M., two miles south of Summersville, Tuolumne County, California. W. A. Lewis.

3658. **Silver Ore,** Plumosa Mine, Ures District, Sonora, Mexico. F. E. Monteverde.

3659. **Silver Ore,** San Miguel Mine, Ures District, Sonora, Mexico. F. E. Monteverde.

3660. **Silver Ore,** Cocinera Mine, Ures District, Sonora, Mexico. F. E. Monteverde.

3661. **Copper Glance,** Bacamacari Mine, Sinaloa, Mexico. F. E. Monteverde.

3662. **Float Silver,** Uralama Mine, Alamos District, Sonora, Mexico. F. E. Monteverde.

3663. **Silver Ore,** Quintera Mine, Alamos District, Sonora, Mexico. F. E. Monteverde.

3664. **Silver Ore,** Joya Mine, Sinaloa, Mexico. F. E. Monteverde.

3665. **Scheelite,** near Seattle, Washington Territory.

3666. **Cuproscheelite** (with Tourmaline), Kern County, California.

3667. **Yellow Brick.** S. W. Holliday.

Made from the alluvial soil of the Rio Grande, which is free from iron. Cost, $6 per 1,000.

3668. **Ear Ornaments** Miss F. Von Lindner.

Made and worn by the natives of the East Indies.

3669. **Rock Specimen,** locality, Inyo Range, 2,000 feet above Owen's Valley, Inyo County, California. S. D. Woodhull.

Of peculiar interest, consisting of alternate layers of quartzite and limestone. On the weathered surface the limestone has been cut away, probably by the action of drifting sand, while the quartzite remains clear and sharp. This specimen is an interesting study, the question suggesting itself how the two minerals were deposited so evenly and with such alternate regularity. When found, the strata were vertical.

3670. **Fragment of Bone of Mastodon** (?), taken from the soil eighty feet below the surface, Bowie Station, S. P. R. R. S. W. Holliday.

The molars are in the Museum of the California Academy of Science.

3671. **Globular Pyrites in Calcite,** near Auburn, Placer County, California. Miss F. Von Lindner.

3672. **Pig Iron,** first run on ores from Taxada Island iron mines. C. H. Simpkins.

3673. **Stream Tin,** near Parrvilla, Durango, Mexico. John B. Phillipin.

3674. **Magnetite, Loadstone** (Natural Magnet), Magnet Cove, Arkansas. J. Z. Davis.

3675. **Piece of Tusk of Fossil Elephant,** Placer County, California. D. C. Stone.

3676. **Vein Matter** (Gold Bearing), Golden Crown Mine, Coulterville Mining District, Mariposa County, California. A. W. Gove.

This specimen is remarkable, as showing the effect of solfataric action in the vein.

3677. **Concretionary Cinnabar,** Washington Mine, Napa County, California. S. A. Coburn.

3678. **Rock Specimen** (Anamesite?), with section for the microscope by Mellville Attwood, Culebra Hill, Panama Canal locality, Isthmus of Panama. M. Eissler.

3679. **Rock Specimen** (Anamesite?), with section by Mellville Attwood, Cerro La Peta Imperador, Panama Canal, Isthmus of Panama. M. Eissler.

3680. **Conglomerate** (Anamesite?), with section by Mellville Attwood, Panama Canal locality, Isthmus of Panama. M. Eissler.

3681. **Rock Specimen,** near Imperador, Panama Canal locality, Isthmus of Panama. M. Eissler.

3682. **Rock Specimen,** Cerro Malo Rio, Panama Canal locality, Isthmus of Panama. M. Eissler.

3683. **Rock Specimen,** Chutes d'Obispo, Panama Canal locality, Isthmus of Panama. M. Eissler.

3684. **Rock Specimen,** Petits Chutes d'Obispo, Panama Canal locality, Isthmus of Panama. M. Eissler.

3685. **Rock Specimen,** Clay, Imperador, Panama Canal locality, Isthmus of Panama. M. Eissler.

3686. **Soundings,** Carboe, Panama Canal locality, Isthmus of Panama. M. Eissler.

3687. **Coal,** Isthmus of Darien. M. Eissler.

3688. **Borings,** Blanchet Shaft, Panama Canal, Isthmus of Panama. M. Eissler.

3689. **Precipitate obtained in the lixiviation of Silver Ores** (Sulphurets), Minas Nuevas Mine, Alamos District, Sonora, Mexico, forty-three per cent of silver. F. E. Monteverde.

3690. **Succinite,** Catania, Sicily.

3691. **Coal,** Mitchell's Mine, fifteen miles from Eureka, Eureka County, Nevada. H. Mitchell.

3692. **Blue Calcite,** San Diego County, California. W. H. Green.

3693. **Rock Specimen,** Spanish Park Canyon, Utah County, Utah. J. W. Hood.
Cut into cube and polished.

3694. **Silver Ore,** Penobscot Mine, twenty-five miles from Helena, Montana.

3695. **Wall Rock with Dendrites,** Vulture Mine, Yavapai County, Arizona.

3696. **Rich Copper Ore,** Mountain Gem Mine, Genesee, Plumas County, California. Johnson & Bicknell.

3697. **Thinolite,** Desert, near Volcano Station, Southern Pacific Railroad, San Diego County, California.

3698. **Small Pebbles of Pumice Stone,** Colorado Desert, five miles west of Volcano Station, Southern Pacific Railroad, San Diego County, California.

3699. **Selenite,** Colorado Desert, five miles west of Volcano Station, Southern Pacific Railroad, San Diego County, California.

3700. **Andalusite,** Moore's Hill, twelve miles south of Mariposa, Mariposa County, California. Richard B. Thomas.

3701. **Quartz and Pyrite,** Both crystallized, El Dorado County, California. E. W. Hulford.

3702. **Twenty-four Samples of Mexican Woods,** F. E. Monteverde.

3703. **Gold Quartz,** Soulsby Mine, Tuolumne County, California. (See No. 912.) John Leechman.

3704. **Silver Ore,** Twins Mine, three miles southeast of Calistoga, Napa County, California. J. H. Crossman.

Said to assay fifty dollars per ton.

3705. **Gold Quartz** (Showing Free Gold), Sheep Ranch Mine, Calaveras County, California. Walter P. Jenney.

3706. **Rose Quartz,** Hope Valley, Alpine County, California. Lewis Chalmers.

3707. **Rose Quartz,** Yokhe (?) Valley, Tulare County, California. Thomas Osborn.

3708. **Rose Quartz,** Plumas County, California. H. Ergels.

3709. **Iceland Spar,** Darwin, Inyo County, California. S. D. Woodhull.

This spar is nearly as fine as the true Iceland spar, and could be used for optical purposes.

3710. **Quartz Crystals** (Doubly Terminated), Beveridge District, Inyo County, California. S. D. Woodhull.

3711. **Chrome Iron,** Michigan Bluff, Placer County, California. S. W. Collins.

3712. **Siderite** (Carbonate of Iron), Tejunga Canyon, Los Angeles County, California. J. W. Redway.
Occurs in a quartz ledge, country rock, granitic.

3713. **Silver Ore,** Henrietta Mine, Wagonton, nine miles from Silver City, Idaho. A. L. Simondi.
The face of this fine specimen is covered with crystals of argentite. (?)

3714. **Rich Copper Ore** (principally Cuprite), Mammoth Copper Mine, Mono County, California. J. F. Johnson.

3715. **Gold Quartz,** Hite Mine (900-foot level), Hite's Cove, Mariposa County, California. (See No. 1844.) N. J. Coleman.

3716. **Chromic Iron,** within one mile of Auburn, Placer County, California. S. P. Collins.

3717. **Limonite** (after Pyrite), perfect crystals, Chowchilla Valley, Mariposa County, California. R. B. Thomas.

3718. **Silver Ore** (?), Railroad Mine, Los Angeles, Los Angeles County, California.

3719. **Gold on Quartz Crystal,** Beveridge District, Mono County, California. J. H. Holt.
The gold has the appearance of having been formed in the crystal, but close inspection shows that it is cemented on the outside by oxide of iron.

3720. **Gold Quartz,** Pioneer Union Mine, Humbug District, Placer County, California. E. G. Spencer.
Three hundred feet below the croppings, ledge four and a half feet thick.

3721. **Chalcedony,** cave near Volcano, Amador County, California. S. W. Collins.

3722. **Stalactite,** cave near Volcano, Amador County, California. S. W. Collins.

3723. **Pyrophyllite,** Greaser Gulch, Mariposa County, California. R. B. Thomas.

3724. **Steatite** (much resembling French Chalk), Pine Flat, Sonoma County, California. Wm. Fowler.

3725. **Chromic Iron,** near Iowa Hill, Placer County, California. S. F. Ambler.

3726. **Gypsum,** near Hill's Ferry, Stanislaus County, California. Isaac Lobree.

3727. **Gold Quartz** (Sulphuret Ore), Modesto Mine, four miles above Mormon Bar, Mariposa County, California. C. F. Leavenworth.

3728. **Pyrolusite and Rhodonite,** near Colton, San Bernardino County, California. McIntosh & Co.

3729. **Lead Pipe** (Gnawed by rats to obtain water), House 656 Folsom Street, San Francisco, California. J. Z. Davis.

3730. **Cinnabar** (Concentrated from low grade ores), Guadalupe Quicksilver Mine, Santa Clara County, California. B. B. Thayer.

3731. **Ilmenite** (in Quartz), twenty miles south of Mariposa, near Buchanan, Mariposa County, California. R. B. Thomas.

3732. **Breccia,** Hills back of Oakland, Contra Costa County, California. H. F. Merrill.

3733. **Aragonite,** Cerro Gordo, Inyo County, California. S. D. Woodhull.

3734. **Rock Specimen,** Los Angeles County, California, seven miles from Alpine Station. R. B. Woodward.

3735. **Rich Copper Ore** (Native Copper), Napa County, California. Dr. J. W. Hood.

3736. **Shale** (with Lignite), near San Bernardino, San Bernardino County, California. Capt. R. Battersby.

3737. **Hollow Bit of Diamond Drill** (with core), from Altura Gold and Silver Mine, Hope Valley, Alpine County, California. Edward Barnes.

3738. **Silver Ore,** Outside Mine, El Dorado Canyon, White Pine County, Nevada. S. A. Winall.

3739. **Rich Copper Ore** (Native Copper and Cuprite), Douglas County, Oregon. Dr. J. W. Hood.
Said also to contain gold and silver.

3740. **Silver Ore,** Mountain View Mine, near Hot Creek, Nye County, Nevada. Scupham & Bullock.
Assay, $7 14 (?) per ton.

3741. **Silver Ore,** Horn Silver Mine, Frisco, Utah. F. E. Monteverde.

3742. **Aragonite,** Pierpont Mine, Eclipse District, Arizona. S. M. Parsons.

3743. **Rock Salt,** as brought to San Francisco from Liverpool.

3744. **Complex Ore,** Albion Mine, Meadow Lake, Nevada County, California.
This specimen will be carefully analyzed and the results published.

3745. **Complex Ore,** Excelsior Mine, Meadow Lake District, Nevada County, California.

3746. **Graphite,** near Pine Flat, Sonoma County, California. Wm. Raynor.

3747. **Quartz Crystals** (including Rutile), near Humboldt House, Humboldt County, Nevada. Wm. Montgomery.

3748. **Molybdenite,** Minnie Mine, Sweetwater Range, Mono County, California. S. W. Frost.

3749. **Jasper,** Little Shasta, Shasta Valley, fourteen miles east of Yreka, Siskiyou County, California. Dr. F. G. Hearn.

3750. **Nodule (Hollow) Hematite,** near Volcano, Amador County, California. S. W. Collins.

3751. **Sample of Soil,** Frink's Spring, Colorado Desert, San Diego County, California.

3752. **Salt,** Mud Volcanoes, at Volcano Station, S. P. R. R., Colorado Desert, San Diego County, California.

3753. **Average Sample of Soil,** near Volcano Station, S. P. R. R., Colorado Desert, San Diego County, California.

3754. **Sample of Soil,** five miles east of Volcano Station, S. P. R. R., Colorado Desert, San Diego County, California.

3755. **Sample of Soil,** two miles east of Frink's Spring, Colorado Desert, San Diego County, California.

3756. **Magnetite,** Mohawk Valley, Sierra County, California. Sierra Iron Company.

3757. **Magnetite,** near St. Helena, Napa County, California. Dr. J. W. Hood.

3758. **Metallic Iron** (reduced from Magnetite), found near St. Helena, Napa County, California. (See No. 3757.)

3759. **Magnetite,** San Bernardino County, California. Six miles from water.

3760. **Iron Ore** (Limonite and Hematite), San Andreas, Calaveras County, California. W. D. Allen.

3761. **Iron Ore** (Hematite), near St. Helena, Napa County, California. E. W. Woodward.

3762. **Iron Ore** (Limonite), San Luis Obispo County, California. E. J. Elzy.
On the line of Monterey County.

3763. **Iron Ore** (Limonite), Township 4 north, Range 10 east, M. D. M., opposite Section 3, in unsurveyed land, two miles in a southerly direction from Campo Seco, Calaveras County, California. A. M. Thrift.

3764. **Jaspery Iron Ore,** near Campo Seco, Calaveras County, California. J. L. Sanford.
This is probably the same as No. 3763.

3765. **Iron Ore** (Limonite), Iron Monarch Mine, Campo Seco Township, Calaveras County, California. (See No. 3763.) C. Berger.

3766. **Iron Ore** (Hematite), Big Tree Iron Mine, Calaveras County, California. M. Attwood.

3767. **Iron Ore** (Magnetite), Grass Valley, Nevada County, California. M. Attwood.

3768. **Iron Ore** (Magnetite), near Benton, Mono County, California.

Analysis by Faulkenau & Reese: Peroxide of iron, 93 00; silica, 7.00; traces of sulphide of copper. This ore is said to be in very large quantities.

3769. **Iron Ore** (Magnetite), compact variety, Texada Island, Straits of Georgia, British Columbia. Redington & Co.

3770. **Iron Ore** (Magnetite), cellular variety, Texada Island, Straits of Georgia, British Columbia. Redington & Co.

3771. **Iron Ore** (Hematite—Bog Ore), Chinicum Mine, Port Townsend Bay, Washington Territory. Redington & Co.

3772. **Pyrolusite**, three miles from Cloverdale, Sonoma County, California. S. A. Raymond.

3773. **Iron Ore** (Hematite), Holden Ledge, Township 15 north, Range 7 east, M. D. M., Nevada County, California. G. A. Holden.

3774. **Iron Ore** (Limonite), twenty-five miles east of Visalia, Tulare County, California. (See No. 2267.) Henry Miller.

Good road, plenty of wood, and limestone; mine lies between two rivers.

3775. **Diatomaceous Earth** (called chalk), Doolan Mine, near Santa Rosa, Sonoma County, California. H. T. Holmes.

3776. **Auriferous Quartz**, Standard Mine, Bodie, Mono County, California. (385-foot level.) Walter P. Jenney.

3777. **Auriferous Quartz**, Syndicate Mine, Bodie, Mono County, California. W. P. Jenney.

3778. **Auriferous Quartz**, Bodie Mine, east drift, Bodie District, Mono County, California. W. P. Jenney.

3779. **Wall Rock** (Blue Dyke), Jupiter Mine (600-foot level, face of west drift), Bodie District, Mono County, California. W. P. Jenney.

3780. **Wall Rock**, Syndicate Mine, Bodie District, Mono County, California. W. P. Jenney.

3781. **Silicified Wood**, Duryea Hydraulic Mine, Chile Gulch, Calaveras County, California, one mile from Mokelumne Hill. L. P. Goldstone.

3782. **Quartz Crystals**, Standard Mine, Bodie, Mono County, California. W. P. Jenney.

3783. **White Mica**, Black Hills, Dakota. D. T. Hughes.

ITALIAN ROCKS.

3784. **Gray Granite**, poor in muscovite, from the Monte Blanco, the highest mountain in Europe (4,810 meters), Courmayeur, Turin. Val. d'Aosta, Pennine Alps.

3785. **Greenish-gray Granite**, containing vitreous and opaque-white quartz, a large amount of greenish-gray felspar, and minute scales of muscovite, from the Monte Blanco, Courmayeur, Turin. Val. d'Aosta, Pennine Alps.

3786. **White and Black Granite**, from Mont. Orfano, Mergozzo, Novara, Val. d'Ossola, Lepontine Alps.

This beautiful granite contains small scales of blackish muscovite, sparingly distributed in the midst of white felspar, scarcely to be distinguished at a short distance from the quartz associated with it. It is much used for paving cities (Milan, etc.); also as an ornamental building stone, and is much esteemed on account of its durability.

3787. **Pink Granite**, containing pink felspar of large crystalline structure, white quartz and small crystals of blackish-brown muscovite, Gignesa, Novara. Lago Maggiore, Lepontine Alps.

This is a splendid ornamental building stone, much prized, though little employed, being too expensive for general use.

3788. **Fine-grained, Black, and Gray Granite**, which passes into Syenite by containing hornblende, from near the lodes of magnetic iron, Traversella iron mines, Traversella, Turin. Val. Chiusella, Graian Alps.

3789. **Dark, Dull-green Chlorite Schist,** Etroubles, Turin. Vallone del Gran San Bernardo, Pennine Alps.

3790. **Dark, Grayish-green Chlorite Schist,** inclosing the lode of copper pyrites and pyrites, copper mine of Ollomont, Ollomont, Turin. Val. Pelline, Pennine Alps.

3791. **Finely Crystalline Pyrites,** forming veins without definite walls, together with copper pyrites, in the midst of Chlorite Schist, copper mine of Ollomont, Ollomont, Turin. Val. Pelline, Pennine Alps.

3792. **Chalcopyrite,** from the copper lode in the Chlorite Schists, Ollomont Copper mine, Ollomont, Turin. Val. Pelline, Pennine Alps.

3793. **Quartz,** of somewhat greasy luster, accompanied by Chalcopyrite and pyrites from the copper lode, Ollomont mine, Ollomont, Turin. Val. Pelline, Pennine Alps.

3794. **Dark, Dull-green Chlorite Schist,** Bobbio Pellice, Turin. Val. Pellice, Cottian Alps.

3795. **Pale, Grayish-green Chlorite Schist,** of somewhat silky luster. Val. Tournanche, branch of Val. d'Aosta, Pennine Alps.

3796. **Quartzose Talc Schist,** consisting of pale-green Talc and opaque white quartz, Douves, Turin. Val. Pelline, Pennine Alps.

3797. **Bluish-gray Calc Schist,** Pre Saint Didier, Turin. Val. d'Aosta, Pennine Alps.

3798. **Lead-gray, Foliated Calc Schist,** Gignod, Turin. Vallone del Gran San Bernardo, Pennine Alps.

3799. **Chalcopyrite,** with gangue of milk-white quartz, in Chlorite Schists, Ollomont Copper Mine, Ollomont, Turin. Val. Pelline, Pennine Alps.

3800. **Green Serpentine Schist,** showing very distinctly the original stratification of the rock, Locana, Turin. Valle dell'Orco, Graian Alps.

Used locally for roofing instead of slate or tiles.

3801. **Grayish-green and Blackish-green Serpentine Schist,** with perfect indication of original stratification, Bobbio Pellice, Turin. Val. Pellice, Cottian Alps.

3802. **Pale, Bluish-green Compact Serpentine Schist,** Bobbio Pellice, Turin. Val. Pellice, Cottian Alps.

3803. **Very dark Bluish-green Serpentine,** of nearly compact structure, Bobbio Pellice, Turin. Val. Pellice, Cottian Alps.

3804. **Brownish-green Serpentine,** containing the merest trace of bronzite. From the Monte Mussini, in the immediate vicinity to veins of Magnesite and Giobertite, Caselette, Turin. Val. di Susa, Cottian Alps.

3805. **Concretionary White Giobertite** (Carbonate of Magnesia), forms veins in the midst of Serpentine, which is generally much decomposed in its proximity, and accompanied by veins of Euphotide, Caselette, Turin. Val. di Susa, Cottian Alps.

Used for chemical works and for making artificial mineral waters.

3806. **Resinite,** accompanying Giobertite, and with it forming reticulated veins in Serpentine, Caselette, Turin. Val. di Susa, Cottian Alps.

3807. **Yellowish-brown Decomposing Serpentine,** the rock in immediate contact with the reticulated veins of Giobertite and Resinite. Derived from the hard form of Serpentine (No. 3804) and traversed by veins of Euphotide, Caselette, Turin. Val. di Susa, Cottian Alps.

3808. **Snow-white Sepiolite or Meerschaum,** accompanies Giobertite, Caselette, Turin. Val. di Susa, Cottian Alps.

3809. **Brownish-white Resinite,** showing contact with yellowish-brown decomposing Serpentine, Caselette, Turin. Val. di Susa, Cottian Alps.

3810. **Compact Porcelain-white, Semi-opal,** accompanying resinite, from the Mussine, Caselette, Turin. Val. di Susa, Cottian Alps.

3811. **Resinite,** of gelatinous appearance, showing the passage into opaque-white, semi-opal at either side of the concretion, Caselette, Turin. Val di Susa, Cottian Alps.

3812. **Opaque, Grayish-white, Semi-opal,** accompanying the reticulated veins of Giobertite and Resinite. From the Mussine, Caselette, Turin. Val. di Susa, Cottian Alps.

3813. **Opaque, Porcelain-white, Semi-opal,** passing insensibly in this specimen into Sepiolite or Meerschaum, Caselette, Turin. Val. di Susa, Cottian Alps.

3814. **Euphotide,** containing crystals of bronzite; forms veins in the Serpentine (see No. 3804); from immediate vicinity of the veins of Giobertite; From the Mussine, Caselette, Turin. Val. di Susa, Cottian Alps.

3815. **Euphotide,** containing large crystals of diallage, feldspar, saussurite in proximity to former specimen in Serpentine, Caselette, Turin. Val. di Susa, Cottian Alps.

3816. **Compact White Giobertite,** forming recticulated veins in the midst of Serpentine, Baldiserro, Canavesa, Turin. Val. Chiusella, Graian Alps.

3817. **Bluish-white and Dark-brown Semi-opal,** from the Serpentine. Campo Canavese, Turin. Graian Alps.

3818. **Semi-opal,** of various beautiful tints from the Serpentine, Campo Canavese, Turin. Grarian Alps.

3819. **Dark-green Serpentine,** somewhat greasy on the plane of fracture, and without distinct indications of stratification, Germagnano, Turin. Valle Grande di Lanzo, Cottian Alps.

3820. **Bluish-gray Steatite,** forming stratified deposits in Serpentine, Germagnano, Turin. Valle Grande di Lanzo, Cottian Alps.

3821. **Greenish-white, aqua-marine Colored Steatite,** Germagnano, Turin. Valle Grande di Lanzo, Cottian Alps.

Found in the Serpentine rocks.

3822. **Light-green Serpentine Schist,** Val. Tournanche, Turin. Val. Tournanche, Pennine Alps.

3823. **Grayish-white Fibrous Asbestos,** from the Serpentine, Chatillon, Turin. Val. d'Aosta, Pennine Alps.

3824. **Fibrous Amianthus,** from fissures in the Serpentine. Western Alps.

3825. **Silky, White, Fibrous, Amianthus,** found in the Serpentine, generally between the walls of fissures or planes of fracture, Usseglio, Turin. Valle di Vin, Cottian Alps.

3826. **Silky Amianthus,** in long fibers of great beauty, Usseglio, Turin. Valle di Vin, Cottian Alps.

3827. **Silky Amianthus,** formed of masses of short fibers, matted together like felt, from the Serpentine Rocks, Usseglio, Turin. Valle di Vin, Cottian Alps.

3828. **Fine-grained Magnetite,** constitutes stratified deposits without proper walls in the Serpentine rocks, Champ-de-Praz, Turin. Val. d'Aosta, Graian Alps.

3829. **Massive Magnetite,** Larcinaz Iron Mine, Cogne, Turin. Valle di Cogne, Graian Alps.

Forms very important stratified deposits in the midst of serpentine rocks. Is smelted with charcoal, and produces the most excellent iron for steel manufacture.

3830. **Red Jasper,** Issiglio, Turin. Val. Chiusella, Graian Alps.

3831. **Garnetiferous Talcose Rock,** formerly much used for making mill-stones, La Molera, Locano, Turin. Valle dell 'Orco, Graian Alps.

3832. **Magnetite,** rich ore of the best kind, Traversella Iron Mines, Traversella, Turin. Val. Chiusella, Graian Alps.

This ore is smelted at Point-Saint-Martin, in the Val. d'Aosta, and from it is obtained the celebrated iron of that valley, which sells at very high prices, on account of its excellent quality, being all made with charcoal. It is remarkable to see the identity of the iron ore in some of the serpentine rocks of Italy with that of Sweden. The product, also, is of the same nature—both are excellent.

3833. **Granular Magnetite,** associated with milk-white calcite and greenish mica, from the iron lode, Traversella Iron Mines, Traversella, Turin. Val. Chiusella, Graian Alps.

3834. **Brown Spathose Iron** (siderite), associated with a little pyrites, from the lode of magnetic iron, Traversella Iron Mines, Traversella, Turin. Val. Chiusella, Graian Alps.

3835. **Pyrites,** associated with magnetite, Traversella Iron Mines, Traversella, Turin. Val. Chiusella, Graian Alps.

3836. **Gangue of the Iron Lodes,** consisting of dolomite passing into siderite, quartz in limpid crystals of short pyramidal nature, with pyramidal terminations and a little granular magnetite, Traversella Iron Mines, Travasella, Turin. Val. Chiusella, Graian Alps.

3837. **Compact White Quartz,** from the magnetic iron lodes, Traversella Iron Mines, Traversella, Turin. Val. Chiusella, Graian Alps.

3838. **Crystalline Pyrites,** forming the gangue of part of the lodes of magnetic iron, Traversella Iron Mines, Traversella, Turin. Val. Chiusella, Graian Alps.

3839. **Calcite,** of lamellar structure and impregnations of magnetite and chalcopyrite, associated with traces of serpentine, without diallage, Traversella Iron Mines, Travasella, Turin. Val. Chiusella, Graian Alps.

3840. **Milk-white, Crystalline, Spathose Dolomite,** associated with a little granulated magnetite, pyrites, chalcopyrites, and pirrotine, Traversella Iron Mine, Traversella, Turin. Val. Chiusella, Graian Alps.

3841. **Chrysocolla,** from the outcrop of the iron lodes, Traversella Iron Mines, Traversella, Turin. Val. Chiusella, Graian Alps.

3842. **Magnetite,** from a part of the lode which contains a very minute proportion of chalcopyrites, reduced to slick, ready to be separated by Sella's electro-separator, Traversella Iron Mines, Travasella, Turin. Val. Chiusella, Graian Alps.

The quantity of copper found in this part of the lode is so small that no other plan than the one used would be remunerative. The magnetite is afterwards sold and used in offices instead of blotting paper, and for other purposes, but is not smelted.

3843. **Finely Crystalline Pyrites,** showing a tendency to crystallize in octohedrons, Bore Pyrites Mine, Brosso, Turin. Val. d'Aosta, Graian Alps.

Typical specimen of the great pyrite lode, the produce of which is largely employed for the manufacture of sulphuric acid in Turin.

3844. **Pyrites in Octohedral Crystals,** from the great pyrites lode, Bore Pyrites Mine, Brosso, Turin. Val. d'Aosta, Graian Alps.

3845. **Pyrites,** with oligist, Bore Pyrites Mine, Brosso, Turin. Val. d'Aosta, Graian Alps.

3846. **Micaceous, Pulverulent Specular Iron** (Oligist), Sarre, Turin. Val. d'Aosta, Pennine Alps.

3847. **Somewhat Lamellar, Fine-grained, Crystalline, Pearl-gray Marble,** Sarre, Turin. Val. d'Aosta, Pennine Alps.

3848. **Pearl-gray Crystalline Marble,** of fine structure, showing the mica schist in contact with the beds of marble with which it is interstratified, Sarre Turin. Val. d'Aosta, Pennine Alps.

3849. **Bluish-gray Crystalline Marble,** Point Canavesse, Turin. Val. Soana, Graian Alps.

3850. **Saccharoid White Marble,** of large crystalline structure. The beds of marble are interstratified with the other prepaleozoic metamorphic rocks, and the general direction is very apparent, Pont Canavesa, Turin. Val. Soana, Graian Alps.

An excellent ornamental stone, but of more lamellar structure than any of the Carrara marbles.

3851. **Saccharoid White Marble,** of fine crystalline structure, exactly like some Carrara marbles, Pont Canavese, Turin. Val. Soana, Graian Alps.

3852. **Crystalline White Metamorphic Marble,** of large open structure, Maniglia, Turin. Valle del Germagnasca, Cottian Alps.

The marble in this vicinity is suitable for making columns, and for various architectural works. But for the distance from a railway station, it would be largely employed.

3853. **Very Fine-grained White Crystalline Marble,** showing the contact with the strata of mica schist, Pont Canavese, Turin. Val. Soana, Graian Alps.

The marble of this locality was employed for the royal tombs in the basilica of the Supurga, near Turin.

3854. **Open-grained Crystalline Metamorphic Marble,** with slightly yellowish tinge and somewhat lamellar structure, Mergozzo, Novara. Val. d'Ossola, Lepontine Alps.

The marble from this locality was employed in building Milan Cathedral, which is entirely made of white marble, from quarries belonging to the church itself.

3855. **Blackish-white Dolomite,** of large crystalline structure, and with rhomboidal fracture, associated with talcose and micaceous schists, as also with white marble, Sarre, Turin. Val. d'Aosta, Pennine Alps.

3856. **Feldspathic Younger Gneiss,** principally formed of very finely crystalline, grayish-white feldspar and a little quartz, the most celebrated gneiss in Italy, Luserne San Giovanni, Turin. Valle di Luserna, Cottian Alps.

This gneiss owes its great importance to the circumstance of its being very easily quarried in immense flags or slabs of comparatively little thickness, suitable for balconies, foot pavements, and many similar uses. It is employed in Turin for such purposes, and is invaluable to the citizens, as it never forms mud or greasy slime in rainy weather, like the majority of flagstones. Such being its excellent properties, it is likewise sent to many of the great cities of northern Italy, and is even exported largely from Genoa to South America. The quarries are very numerous and the trade in the gneiss flourishing.

3857. **Very Fine-grained, Greenish-gray Younger Gneiss,** containing bluish-white feldspar and dark greenish mica in minute particles, together with opaque-white quartz, Torre Pellice, Turin. Val. Pellice, Cottian Alps.

3858. **Younger Gneiss,** containing granular white feldspar, very uniformly distributed through the mass of the rock, Angrogna, Turin. Valle d'Angrogna, Cottian Alps.

This is one of the most beautiful varieties of the Alpine gneiss, and very rare.

3859. **Quartzose Younger Gneiss,** consisting of opaque-white quartz and silver-white muscovite, Buera, Novara. Val. d'Ossola, Lepontine Alps.

This rock divides with great facility into large slabs or flags, which are much employed in the large cities of Lombardy for balconies, etc. It is much softer to work than the very feldspathic gneiss of the Valle di Luserna, but quite unsuitable for paving.

3860. **Younger Gneiss,** containing grayish-brown mica and much opaque-white quartz, often forming small nodules in the rock, Sparone, Turin. Valle dell'Orco, Graian Alps.

3861. **Very Quartzose, Grayish-white Younger Gneiss,** containing small crystalline particles of feldspar, opaque-grayish white quartz and grayish-green mica, also occasionally small crystals of hornblende, Borgone di Susa, Turin. Val. di Susa, Cottian Alps.

3862. **Pale Grayish-blue, Banded, Feldspathic Younger Gneiss,** of minute crystalline structure, Luserna San Giovanni, Turin. Valle di Luserna, Cottian Alps.

A splendid stone for public works, for paving-blocks or slabs, for parapets, coping of walls, bridges, etc. Quarried on an extensive scale.

3863. **Younger Gneiss,** with slight tinge of yellow, consisting of feldspar and quartz intimately associated, and minute scales of yellowish-green mica, Vayes, Turin. Val. di Susa, Cottian Alps.

3864. **Banded, Gray, Micaceous, Younger Gneiss,** showing plainly the planes of stratification, Bobbio Pellice, Turin. Val. Pellice (Waldensian Valleys), Cottian Alps.

3865. **Bluish-gray Younger Gneiss,** of finely crystalline structure, divides into immense slabs, along the planes of which are accumulated in large quantities, minute scales of muscovite, Luserna, San Giovanni, Turin. Valle di Luserna, Cottian Alps.

A magnificent and useful stone for making balconies and flagstones for foot pavements in cities, as at Turin. Employed in all the large cities of Piedmont, and likewise exported from Genoa to South America. (See No. 3856.)

3866. **Iron-gray Micaceous Younger Gneiss,** Perrero, Turin. Valle della Germagnana (Waldensian Valleys), Cottian Alps.

3867. **Gray and Yellowish Quartzose Mica-schist,** Angrogna, Turin. Valle d'Angrogna (Waldensian Valleys), Cottian Alps.

3868. **Grayish-yellow Mica-schist,** consisting principally of muscovite of large lamellar structure, and with silvery reflex, Turin. Valle San Martino (Waldensian Valleys), Cottian Alps.

3869. **Gray Mica-schist,** with brilliant silvery reflex. Angrogna, Turin. Valle d'Angrogna (Waldensian Valleys), Cottian Alps.

3870. **Iron-gray Quartzose Mica-schist,** passing into younger gneiss, Angrogna, Turin. Valle d'Angrogna (Waldensian Valleys), Cottian Alps.

3871. **Pale Yellowish-white Mica-schist,** containing minute crystals of garnet, Angrogna, Turin. Valle d'Angrogna, Cottian Alps.

3872. **Gray Younger Gneiss,** containing large crystals of bluish-white feldspar, quartz, often vitreous, and a small quantity of mica, Borgone di Susa, Turin. Val. di Susa, Cottian Alps.

A splendid, very hard and durable stone, admirably adapted for public works. Quarried on a considerable scale for such purposes.

3873. **Actinolite-schist,** containing very minute crystals of actinolite, Valtournanche, Turin. Val. Tournanche, Pennine Alps.

3874. **Lead-gray Micaceous Calc-schist,** Pont Canavese, Turin. Valle dell' Orco, Graian Alps.

Quarried for making steps, etc., for architectural purposes. A good, durable stone, of agreeable appearance. It is associated with the crystalline marbles, which lie almost contiguous to it in conformable stratification.

CRYSTALLINE ROCKS—ST. ALBAN'S SYSTEM.

3875. **Sienite,** containing light puce-colored feldspar, in small crystals, from the quarries of La Balma Quittengo, Novarra. Valle del Cervo, Pennine Alps.

This is one of the most durable sienites in Italy. It is employed for paving blocks, as in Turin, in some cases, especially for crossings of tramways. It is also a splendid ornamental stone for architectural purposes. Contains small crystals of puce-colored feldspar, quartz, and hornblende. Derived, according to Gastaldi, from recent gneiss. It is by no means an eruptive rock.

PALEOZOIC GROUP—CARBONIFEROUS SYSTEM

3876. **Slate-blue Argillaceous Schist,** Courmayeur, Turin. Val. d'Aosta, Pennine Alps.

3877. **Bluish-gray, Compact Limestone,** with very irregular fracture; so much so that it is impossible to work it into any given shape, and traversed by veins of opaque-white calcite, Courmayeur, Turin. Val. d'Aosta, Pennine Alps.

Used for making lime.

3878. **Anthracite Coal,** La Thuile, Turin. Vallone della Balma, Graian Alps.

This coal is from the coal basin of the Monte Bianco. It is very scaly and contains much fine dust. When properly washed it is an excellent fuel. Gives 5,830 calorific units, according to Berthier's process. There are six beds, the principal one of which is 7½ feet thick. Belongs, in all probability, to the horizon of the millstone grit of England and Ireland; that is to say, to the base of the carboniferous system. See *Jervis' I Tesori Sotteranei dell' Italia* (Article La Thuile) and *I Combustibili Minerali dell' Italia.*

3879. **White Gypsum,** of almost compact structure. Forms beds in connection with carboniferous, cavernous limestone, from the neighborhood of the Monte Bianco, Courmayeur, Turin. Val. d'Aosta, Pennine Alps.

3880. **Compact White Gypsum,** with colored veins, Courmayeur, Turin. Val. d'Aosta, Pennine Alps.

3881. **Anthracite Coal,** Demonte, Cuneo. Valle del Stura, Maritime Alps. (From the coal basin of Demonte.)

Forms five beds, of which one is four feet thick. From the base of the carboniferous system, probably the equivalent of the millstone grit. Gives 6,239 calorific units. See Jervis' *I Tesori Sotteranei dell' Italia* (Article Demonte) and *I Combustibili Minerali dell' Italia.*

3882. **Stalactitical Crystalline Calcite,** from the carboniferous limestone, Demonte, Cuneo. Valle della Stura, Maritime Alps.

3883. **Massive White Quartz,** forming immense strata from 200 to 240 feet thick, extending from northwest to southeast for several miles in length, and entirely consisting of pure quartz, like this sample, Demonte, Cuneo. Valle della Stura, Maritime Alps.

APPENINE REGION.

N. B.—The Apuan Alps form part of the Appenines; the word "Alp" does not refer, in the remotest manner, to the Alpine chain, which is in quite another part of Italy.

PREPALEOZOIC GROUP—INDISTINCTLY.

3884. **Pale Yellowish-green Talcose Schist,** Cogoleto, Genoa. Riviera di Ponente.

3885. **Pale Yellowish-white Feldspathic Rock,** with talc in minute quantities, Cogoleto, Genoa. Riviera di Ponente.

3886. **Pale Green Chlorite Schist,** inclosing the copper lode of the Frigido Copper Mine, Massa (Massa and Carrara). Valle del Frigido, Apuan Alps.

3887. **Ash-gray Talcose Feldspathic Rock,** beautifully veined, Massa (Massa and Carrara). Valle del Frigido, Apuan Alps.

3888. **Gray Quartzose Schist,** from the proximity of the copper lode, Frigido Copper Mine, Massa (Massa and Carrara). Valle del Frigido, Apuan Alps.

3889. **Siderite,** of spathose structure, with a little quartz and chalcopyrites, constitutes the gangue of the copper lode, Frigido Copper Mine, Massa (Massa and Carrara). Valle del Frigido, Apuan Alps.

3890. **Pale Gray Talcose Schist,** the rock inclosing the lead ore, Bottino Lead Mine, Stazzema, Lucca. Valle del Vezza, Apuan Alps.

3891. **Yellowish-brown Argillaceous Schist,** from the lead mine of Bottino; the rock in proximity to the lode, Stazzema, Lucca. Valle del Vezza, Apuan Alps.

3892. **Galena,** of small crystalline structure, from the lode in the talcose schist, associated with argillaceous schists, Bottino Lead Mine, Stazzema, Lucca. Valle del Vezza, Apuan Alps.

3893. **Galena,** of large lamellar, crystalline structure, with chalcopyrites (one beautiful tetrahedral crystal) calcite in rhombohedral crystals piled one upon another parallel to the base, opaque-white quartz, etc., in talcose schist, Bottino Lead Mine, Stazzema, Lucca. Valle del Vezza, Apuan Alps.

3894. **Chalcopyrite and Panabase,** Frigido Copper Mine, Massa (Massa and Carrara). Valle del Frigido, Apuan Alps.

3895. **Pirrotina,** from the lead lode, Bottino Lead Mine, Stazzema, Luca. Valle del Vezza, Apuan Alps.

3896. **Hetromorphite,** in magnificent capillary crystals, from the lead lode, Bottino Mine, Stazzema, Lucca. Valle del Vezza, Apuan Alps.

3897. **Lead-gray Argillaceous Schist,** Cogoleto, Genoa. Riviera di Ponente.

3898. **Lead-gray, Mica-Schist,** Savona, Genoa. Riviera di Ponente.

3899. **Cassiterite,** containing, as a mean product, forty-six per cent of tin—richest oré mine of the Cento Camarelle, Campiglia Marittima, Pisa.

The nature of the lode and its geological relations are as yet unknown, but the lode is in the vicinity of granite, though not in it. The mine is supposed to have been worked at least 1,800 years ago, by the Romans, as an immense number of extremely ancient workings have been discovered all around.

3900. **Cassiterite,** from the Mine of the Cento Camarelle, rich ore. Campiglia Marittima, Pisa.

3901. **Cassiterite,** of brick-red color, Mine of the Cento Camarelle. Campiglia Marittima, Pisa.

PREPALEOZOIC GROUP—ST. ALBAN'S SYSTEM.

3902. **Fine-grained, Crystalline Marble,** of a delicate pearl-gray tint. Zantiscritti Quarry, Carrara (Massa and Carrara), Apuan Alps.

Termed in architecture "Marmo bianco ordinario di seconda qualita." A very strong good material for out-door work; not so beautiful in appearance as the following specimens. (See Jervis' "Mineral Resources of Central Italy.")

3903. **Fine-grained, Crystalline Marble,** of a pearl-gray or bluish tint, termed in architecture, "Marmo bianco ordinario di prima qualita." Zantiscritti Quarry, Carrara (Massa and Carrara), Apuan Alps.

A splendid material for monuments and outdoor architectural works in general; resists the atmospheric influences very well. (See Jervis' "Mineral Resources of Central Italy.")

3904. **Pearl-blue, fine-grained Crystalline Marble,** of great strength, admirably suited for architectural purposes. Piastra Quarry, Carrara (Massa and Carrara), Apuan Alps.

3905. **Pearl-blue, fine-grained, Crystalline Marble,** termed in architecture "Marmo bianco ordinario di seconda qualita." Canal Bianco Quarry, Carrara (Massa and Carrara).

A very excellent material for open-air architectural work, and one which admirably resists the atmospheric agencies. Less white than the other sample from this quarry. (See Jervis' "Mineral Resources of Central Italy.")

3906. **Fine-grained, Crystalline White Marble,** termed "Marmo bianco ordinario di prima qualita." Canal Bianco Quarry, Carrara (Massa and Carrara), Apuan Alps.

The best kind for architectural indoor purposes, but less suited for exposure to the air than the former variety.

3907. **Best Pearl-gray, Finely-crystalline Marble,** termed "Marmo Bianco ordinario di prima qualita." Ravaccione Quarry, Carrara (Massa and Carrara), Apuan Alps.

Much used for ordinary statuary and is highly esteemed for decorative purposes. Ravaccione marble is a well known typical stone.

3908. **Snow-white Crystalline Marble,** of Saccharoid structure; termed "Marmo bianco ordinario di prima qualita," Canal Grande Quarry. Carrara (Massa and Carrara), Apuan Alps.

This is a specimen of the best kind of marble quarried at this point. Admirable for indoor purposes, but does not resist the action of frost and other atmospheric agencies so well as some other types, and on exposure to such causes and to much moisture, it crumbles to dust.

3909. **Fine-grained, Crystalline Snow-white Marble,** traversed by abundant minute purple-brown veins of great beauty; termed "Marmo pavonazzo." Boccanaglia Quarry, Carrara (Massa and Carrara), Apuan Alps.

The peacock marble (so called) is one of the most splendid and gorgeous ornamental building stones; when properly polished it makes the most beautiful columns and balustrades for churches; also paneling and other work where sawed marble may be employed. Being very hard, and being found in very limited quantity, it is a most expensive marble.

3910. **Pearl-gray Crystalline Marble,** of larger structure than the other sample from this locality. Canal Grande Quarry, Carrara (Massa and Carrara), Apuan Alps.

Is a splendid material for all architectural purposes, as it resists atmospheric influences admirably; termed, in architecture and the arts, "Marmo bianco ordinario di seconda qualita." Can also be sawed for general use. One of the best kinds of marble found at Carrara.

3911. **Finely-crystalline White Marble,** with delicate bluish-gray veins; termed, in architecture and the arts, "Marmo bianco venato di seconda qualita." Used especially for internal decoration and for furniture, and is cut into slabs. Vara Quarry, Carrara (Massa and Carrara), Apuan Alps.

3912. **Very Fine-grained Crystalline White Marble,** with delicate slate-colored veins; known as "Marmo bianco venato ordinario." Vara Quarry, Carrara (Massa and Carrara), Apuan Alps.

A much esteemed marble for ornamental purposes. Not good for monuments in cemeteries. All the snow-white marbles are bad for this purpose, and it is a popular mistake in Europe to employ them for such uses, since the frost, sun, and moisture together injure and destroy the material in a short time, the inscriptions getting eaten out and obliterated. The pearl-gray marbles should be rather used. This article should be well perused by all who desire to perpetuate the memory of those dear to them, whereas, by the wrong choice of the marbles, they do everything in their power to use a bad material simply because it looks prettier at first. (See Jervis' "Mineral Resources of Central Italy.")

3913. **Very best, Fine-grained, Crystalline White Statuary Marble,** termed in sculpture "Marmo statuario bianco di prima qualita." Polvaccio Quarry, Carrara (Massa and Carrara), Apuan Alps.

When freshly quarried it is translucent in the thin edges, but soon loses this property on long exposure to the air; whereas, the statuary marble from Crestola Quarry always maintains its translucency. (See Jervis' "Mineral Resources of Central Italy.")

3914. **Very beautiful, Fine-grained Statuary Marble,** of best kind, called "Marmo statuario di prima qualita." Bettogli Quarry, Carrara (Massa and Carrara), Apuan Alps.

This marble is translucent in thin pieces, and somewhat porous, whence it easily absorbs soot in cities, and when cut into thin slabs is somewhat elastic. It should be employed as soon as it is quarried, and not left lying out of doors, so as to avoid the loss of specific gravity, which takes place when exposed to inclement weather.

3915. **Carbonate of Iron,** in contact with white statuary marble, together with other colored mineral matters. Crestola Quarry, Carrara (Massa and Carrara), Apuan Alps.

This association of extraneous elements is termed by the quarrymen "madremacchia." It is welcomed as the indication of the sure vicinity of the best statuary marble within a few feet.

3916. **Best White, Fine-grained Statuary Marble,** from the celebrated quarry of Crestola; supposed to be the first of all the Carrara statuary marble quarries, and also one of the most ancient. Carrara (Massa and Carrara), Apuan Alps.

This sample is intended to illustrate the nature of the contact with the veins of compact gray limestone found in connection with the crystalline white marbles along with the madreperacchia.

3917. **The most beautiful Waxy-white Statuary Marble,** showing the contact with veins or fissures filled with carbonate of iron and brown spar, together with various minutely crystalline minerals. Crestola Quarry, Carrara (Massa and Carrara), Apuan Alps.

3918. **Fine-grained Crystalline Marble,** of waxy-white tint. Crestola Quarry, Carrara (Massa and Carrara), Apuan Alps.

Marmo statuario carnicino. The most esteemed marble in Europe for statuary. Does not alter by exposure to the air, provided it be kept indoors. Very tenacious, so that the sharpest edges can be obtained in works of art. Has been quarried for nearly 2,000 years.

3919. **Gray Dolomite,** of open crystalline structure; accompanies the white crystalline marble, and forms certain strata independent of them; from above the village of Forno. Massa (Massa and Carrara), Vall del Frigido, Apuan Alps.

3920. **Extremely Fine-grained, pearl-blue Crystalline Marble,** a common kind; termed in architecture "Marmo bianco ordinario di seconda qualita," Lavagrino Quarry. Massa (Massa and Carrara), Valle del Frigido, Apuan Alps.

3921. **Extremely Fine-grained Crystalline White Marble,** "Marmo bianco ordinario di seconda qualita;" from above the village of Forno. Massa (Massa and Carrara), Valle del Frigido, Apuan Alps.

Serves for sawing into slabs and for internal decorative purposes. Being of a perfectly opaque-white, it is very good for architecture and ordinary statuary, as it gives sharp shadows. The grain is finer than that of Carrara marble in general.

3922. **Very Fine-grained, Crystalline White Marble,** termed "Marmo bianco ordinario Puissant di seconda qualita," from the quarries above the village of Forno. Massa (Massa and Carrara), Valle del Frigido, Apuan Alps.

An admirable marble for sawing into slabs, and wherever it is not to be exposed to the air.

3923. **Finely Crystalline White Marble,** termed in the arts "Marmo bianco ordinario," Piastrone Quarry. Massa (Massa and Carrara), Valle del Frigido, Apuan Alps.

Employed for sawing into slabs for furniture and for a variety of purposes, but especially for indoor work. Most suitable for columns, and can be had in blocks of forty feet long. The strata are nearly vertical at this place, hence the columns made from this locality retain the original position of the stone and last longer in consequence.

3924. **Fine-grained, Crystalline Pearl-blue Marble,** termed "Marmo bianco ordinario." Corchio Quarry, Stazzana, Lucca.

An excellent material for outdoor work, resists the atmospheric influences very well. (See Jervis' "Mineral Resources of Central Italy.")

3925. **Pearl-gray, Crystalline, Metamorphic Marble,** termed "Marmo bianco ordinario di seconda qualita," Costa Quarry, Serravezza, Lucca. Valle del Vezza, Apuan Alps.

Much used for steps and paving tiles for houses.

3926. **Fine-grained Crystalline White Marble,** Ceragiola Quarry, Serravezza, Lucca. Valle del Vezza, Apuan Alps.

Possessing very decidedly a stratified character, hence it can be easily obtained in thin slabs for paving stones. Termed "Marmo bianco ordinario di seconda qualita." (See Jervis' "Mineral Resources of Central Italy.")

3927. **Pearl-blue, Crystalline Marble,** of fine structure, Costa Quarry, Serravezza, Lucca. Valle del Vezza, Apuan Alps.

Is found in beds or strata very distinctly marked, and furnishes slabs suited for paving purposes. It is principally cut into pieces of small size, into flags of octagonal, hexagonal, or square shape, such as are most extensively used in warm climates. Termed "Marmo bianco ordinario seconda qualita." (See Jervis' "Mineral Resources of Central Italy.")

3928. **Best Fine-grained White Statuary Marble,** from the quarry on the Monte Altissimo, Serravezza, Lucca. Valle del Serra, Apuan Alps.

This was discovered and first worked by Michael Angelo. Gives excellent sharp shadows, whence it is much prized in statuary. (See Jervis' "Mineral Resources of Central Italy.")

3929. **Best Fine-grained, Crystalline White Marble,** of a magnificent warm tint. Termed "Marmo statuario di prima qualita." Falcovaja Quarry, Serravezza, Lucca. Valle del Serra, Apuan Alps.

Much prized by sculptors, and of very homogeneous structure.

3930. **Crystalline Marble,** termed "Marmo pavonazzo," peacock marble. Boccanaglia Quarry, Carrara (Massa and Carrara), Apuan Alps.

3931. **Pale Bardiglio Marble,** Discina Quarry, Carrara (Massa and Carrara).

A splendid ornamental stone.

3932. **Crystalline Marble,** termed "Marmo bardiglio zonato chiaro." Carrara (Massa and Carrara), Apuan Alps.

3933. **Pale Bardiglio Marble,** with only small traces of blackish-blue veinings, Colonnata Quarries. Carrara (Massa and Carrara), Apuan Alps.

3934. **Crystalline Marble,** termed "Marmo bardiglio chiaro," Colonnata Quarries. Carrara (Massa and Carrara), Apuan Alps.

3935. **Pale Bluish-gray Bardiglio Marble,** with dark veins, Colonnata Quarries. Carrara (Massa and Carrara), Apuan Alps.

A splendid material for internal decoration—takes an excellent polish.

3936. **Veined Crystalline White Marble,** termed "Marmo bianco venato," Vara Quarry. Carrara (Massa and Carrara), Apuan Alps.

3937. **Best Veined White Marble,** termed "Marmo bianco venato di prima qualita," Vara Quarry. Carrara (Massa and Carrara), Apuan Alps.

3938. **Veined White Marble,** termed "Marmo bianco venato," Fossacana Quarry. Carrara (Massa and Carrara), Apuan Alps.

3939. **Veined White Marble,** termed "Marmo bianco venato," Gioia Quarry. Carrara (Massa and Carrara), Apuan Alps.

3940. **Best Veined Marble,** termed "Marmo bianco venato di prima qualita," Massa Quarry. Carrara (Massa and Carrara), Apuan Alps.

3941. **Veined White Marble,** termed "Marmo bianco venato ordinario." Carrara (Massa and Carrara), Apuan Alps.

3942. **Spotted White Marble,** termed "Marmo bianco ordinario moschettato," Gioia Quarry. Carrara (Massa and Carrara), Apuan Alps.

3943. **Common Spotted White Marble,** termed "Marmo bianco ordinario moschettato," Carbonara Quarry. Carrara (Massa and Carrara), Apuan Alps.

3944. **Best Crystalline White Marble,** with yellowish veins, Gioia Quarry. Carrara (Massa and Carrara), Apuan Alps.

3945. **Crystalline White Marble,** termed "Marmo bianco chiaro ordinario di prima qualita," Canal Grande Quarry. Carrara (Massa and Carrara), Apuan Alps.

3946. **Crystalline White Marble,** termed "Marmo bianco ordinario di prima qualita," Colonnata Quarries. Carrara (Massa and Carrara), Apuan Alps.

This marble is translucent when sawed into thin slabs.

3947. **Dark-bluish Gray Crystalline Marble,** with bluish-white markings, termed in the arts "Marmo bardiglio scuro," Rocchetta Quarry. Massa (Massa and Carrara), Apuan Alps.

3948. **Dark-bluish Gray Crystalline Marble,** with light colored veins, termed "Marmo bardiglio scuro venato," Rocchetta Quarry. Massa (Massa and Carrara), Apuan Alps.

3949. **Crystalline White Marble,** containing a few gray markings and veins; termed in commerce "Marmo bianco ordinario di prima qualita," Piastrone Quarry. Massa (Massa and Carrara), Apuan Alps.

3950. **Veined Crystalline White Marble,** termed "Marmo bianco venato di seconda qualita," Piastrone Quarry. Massa (Massa and Carrara), Apuan Alps.

3951. **Bluish-gray Crystalline Marble,** termed in the arts "Marmo bardiglio venato," Capella Quarry, Serravezza, Lucca. Valle del Vezza, Apuan Alps.

3952. **Crystalline Veined Marble,** termed "Marmo bianco venato di seconda qualita," Giardino Quarry, Serravezza, Lucca. Valle del Serra, Apuan Alps.

3953. **Veined White Crystalline Marble,** termed "Marmo bianco venato di prima qualita," Giardino Quarry, Serravezza, Lucca. Valle del Serra, Apuan Alps.

3954. **White Crystalline Marble,** termed "Marmo bianco ordinario," Trambisserra Quarry, Serravezza, Lucca. Valle del Serra, Apuan Alps.

3955. **White Crystalline Marble,** termed "Marmo bianco chiaro ordinario," Falcovaia Quarry, Serravezza, Lucca. Valle del Serra, Apuan Alps.

3956. **White Crystalline Marble,** termed "Marmo bianco ordinario di prima qualita," Polla Quarry, Serravezza, Lucca. Valle del Serra, Apuan Alps.

3957. **Commonest Statuary Marble,** from the Altissimo Quarry, Serravezza, Lucca. Valle del Serra, Apuan Alps.

This marble is much used for furniture. When cut into slabs, it is translucent by transmitted light.

3958. **Veined White Marble,** termed "Marmo bianco ordinario di seconda qualita," Arni Quarries. Vagli Sotto (Massa and Carrara), Valle d'Arni, Apuan Alps.

This marble is translucent in thin slabs.

3959. **Gray Marble,** with extremely beautiful anastomosing veins and spots, dark blackish-blue (due to the presence of organic vegetable matter?); termed in the arts "Marmo bardiglio fiorito" (or flowery bardiglio), Luchera Quarry. Stazzema, Lucca, Valle del Vezza, Apuan Alps.

This is one of the most splendid colored marbles of Italy, and sells at immense prices.

3960. **Gray Crystalline Marble,** with dark, blackish-blue veinings, more or less, running in one direction; termed "Bardiglio fiorito," Luchera Quarry, Stazzema, Lucca. Valle del Vezza, Apuan Alps.

3961. **Dark Crystalline Marble,** termed "Marmo bardiglio fiorito scuro" (dark flowery bardiglio marble), Luchera Quarry, Stazzema, Lucca. Valle del Vezza, Apuan Alps.

3962. **Light Bardiglio Marble,** termed "Marmo bardiglio chiaro," Luchera Quarry, Stazzema, Lucca. Valle del Vezza, Apuan Alps.

3963. **Spotted Bardiglio Marble,** termed "Marmo bardiglio moschettato, Lucherra Quarry, Stazzema, Lucca. Valle del Vezza, Apuan Alps.

An extremely handsome ornamental stone. The only locality in Europe where it is known to exist. Sells at very high prices.

3964. **Conglomerate,** consisting of fine-grained, crystalline, white marble pebbles, cemented together by brownish-red mineral matter, termed in architecture "Mischio di Serravezza," Rondone Quarry, Stazzema, Lucca. Valle del Vezza, Apuan Alps.

This is a gorgeous marble when it is polished for monuments, columns, and internal decoration, but not for outdoor work. It sells at nominal prices, being hard to work.

3965. **Conglomerate,** consisting of pebbles of fine-grained, crystalline, white marble, cemented by peach-colored mineral matter, termed "Marmo mischio persachino di Serravezza," Rondone Quarry, Stazzema, Lucca. Valle del Vezza, Apuan Alps.

A magnificent ornamental marble. (See No. 3964.)

3966. **Slate,** Stazzema, Lucca. Valle del Vezza, Apuan Alps.

Used for roofing; may be had in very large slabs, but is rather soft.

3967. **Anthracite Coal,** Osiglia, Genoa. Valle del Bormida, coal basin of Calizzano.

Belongs, in all probability, to the millstone grit series, the lowest member of the carboniferous system. The bed is, in some places, five feet thick, as at Calizzano.

3968. **Pale, Flesh-colored Limestone,** from the neighborhood of Fano (Pesaro and Urbino), Valle del Cesana.

A good building stone.

3969. **Impure Whitish Limestone,** very similar to gray chalk of England; from the neighborhood of Fano (Pesaro and Urbino), Valle del Cesana.

A good building stone.

3970. **Dark Greenish-gray Macigno,** a fine micaceous, arenaceous rock, very characteristic of the lower tertiary of the Appenines. Fiesola, Florence. Valle dell 'Arno.

A very useful building and paving stone, much employed at Florence.

3971. **Lead-gray Macigno,** a rock containing minute fragmentary particles of mica. Poretta, Bologne, Valle del Reno.

A very strong, good building stone, employed at Bologna. Cappellini is rather disposed to consider it as belonging to the lower tertiary.

3972. **Ash-gray Macigno,** Brisighetta, Ravenna.

A rock containing minute particles of mica disposed in parallel series, so that there is great facility in obtaining it in slabs or flags suitable for balconies and flagstones. It is much employed in neighboring cities, being a very useful material.

3973. **Diaphanous Crystalline Selenite,** forming strata of considerable thickness, with blackish-gray marls. Monte San Donato, Bologna.

Used for making plaster.

3974. **Pale, Yellowish-brown Molassa,** Vergato, Bologna. Valle del Reno.

A good ordinary building material, but soft.

3975. **Fine-grained Gray Molassa,** Vergato, Bologna. Valle del Reno.

A better building material than the other variety from this locality.

3976. **Crystallized Diaphanous Selenite,** found in the gray marls, in the neighborhood of Voghera, Pavia. Valle del Po.

Used for making plaster.

3977. **Serpentine Conglomerate,** Turin (Colline and Torino). Valle del Po.

Consists of serpentine gravel brought down from the Alpine chain by the agency of ancient glaciers during the miocene system (anterior to the glacial time), and subsequently cemented together in an imperfect manner by calcareous matter—interstratified with grayish miocene marls.

3978. **Ash-gray Marl,** of marine origin. Montepagano (Abruzzo Ulterior primo).

3979. **Serpentine Conglomerate,** Celle Ligure, Genoa. Riviera di Ponente.

It is the detritus of prepaleozoic rocks brought down to the sea by ancient torrents.

3980. **Compact White Travertine,** formed by the secular deposition of the mineral matter left by the sulphurous spring of the Acqua Albula, Tivoli, Rome.

This travertine forms extensive strata of great thickness. It was much employed by the Romans in the public buildings when they did not use brick; for instance, for certain parts of the Coliseum. (See Jervis' "Guida alle Acqua Minerale, Provincia Centrali.")

3981. **Compact Peat,** from the now drained Lake of Bientina, Castelfranco di Sotto, Florence. Valley d'Arno Inferiore.

Prehistoric series.

3982. **Recent Alluvium** of the Po. Turin, Valle of the Po.

This alluvium, derived from the rocks of the Apennines, comes from the affluents on the right of the Po. It is absolutely different from the alluvium derived from the Alpine rocks brought down by the affluents on the left of the Po. Prehistoric series.

3983. **Recent Cotemporaneous Peat,** very spongy, and showing the organic remains of the reeds and other aquatic plants of which it was formed. Argenta, Ferrara, Valle of the Po.

3984. **Genthite** (Nickel Gimnite, Hydrous Silicate of Nickel and Magnesia). Locality, Piny Mountain, on Cow Creek, near Canyonville, Douglass County, Oregon.

3985. **Millerite** (with Cobalt?), half a mile from Chico, Placer County, California. O. C. Pope.

3986. **Trigonia impressa,** Jurassic fossil, Bath oolite, Stonesfield, England. (See Geol. Oxford, 181.)

3987. **Terebratula maxillata,** Jurassic fossil, Bath oolite, Stonesfield, England. (See Geol. Oxford, 181.)

3988. **Pecten fibrosus,** Jurassic fossil, Bath oolite, Stonesfield, England. (See Geol. Oxford, 181.)

3989. **Nautilus baberi,** Jurassic fossil, Stonesfield, England. (See Geol. Oxford, 181.)

3990. **Trigonia moretoni,** Jurassic fossil, Bath oolite, Stonesfield, England. (See Geol. Oxford, 181.)

3991. **Rhynchonella obsoleta,** Jurassic fossil, Bath oolite, Stonesfield, England. (See Geol. Oxford.)

3992. **Pecten annulatus,** Jurassic fossil, Bath oolite, Stonesfield, England.

3993. **Modiola imbricata,** Jurassic fossil, Bath oolite, Stonesfield, England.

3994. **Slab with Fossil Plants,** Jurassic fossil, Bath oolite, Stonesfield, England.

3995. **Pholodomya acuticosta,** Jurassic fossil, Bath oolite, Stonesfield, England.

3996. **Red Silver Ore,** Concordia Mine, Bodie, Mono County, California. W. P. Jenney.

3997. **Rich Silver Ore,** Alta Mine, Comstock Ledge, Virginia, Nevada. O. C. Pope.

3998. **Pocket Knife,** found at the camp where the emigrants perished in Death Valley, Inyo County, California. F. F. A. Connelly.

3999. **Portion of the Capital of a Rude Column in an Ancient Church,** East Cameron Mountains, on the road from Santa Fe, New Mexico. O. C. Pope.

The church is built of wood and adobe, and is fast falling into decay.

4000. **Silver Ore,** General Grant Mine, New Mexico. O. C. Pope.

4001. **Silver Ore,** Lookout Mine, Lookout Mining District, Inyo County, California. O. C. Pope.

4002. **Ore containing Free Gold,** Caledonia Mine. Deadwood, Black Hills, Dakota. W. P. Jenney,

4003. **Fossil Oyster,** Gabilan Mountains, Santa Cruz County, California. O. C. Pope.

4004. **Silver Ore,** Santa Rita Mine, Grant County, New Mexico. O. C. Pope.

4005. **Hubnerite,** found in Potsdam sandstone, near porphyry dykes, Comstock Mine, Strawberry District, near Deadwood, Dakota. (See No. 2413.) W. P. Jenney.

4006. **Cerargyrite Crystals** (Microscopic), General Grant Mine, New Mexico. (See No. 4000.) O. C. Pope.

4007. **Azurite** (Blue Carbonate of Copper), Burro Mountains, Grant County, New Mexico. O. C. Pope.

4008. **Silver Ore,** Silver Cliff Mine, Custer County, Colorado. D. T. Hughes.

4009. **Lava,** Mt. St. Helen's, Washington Territory. J. Z. Davis.

4010. **Yellow Ocher** (Limonite), found in considerable quantities adjoining an iron mine (See No. 3765), Campo Seco Township, near Campo Seco, Calaveras County, California; valuable as a pigment. C. Berger.

4011. **Burnt Ocher** (same as No. 4010), near Campo Seco, Calaveras County, California. C. Berger.

4012. **Electrum,** alloy of gold and silver, with chalcopyrite and other minerals, Black Range, Socorro County, New Mexico. O. C. Pope.

4013. **Portion of a Brick** (illustrating the McCulloch Process.) M. Attwood.

The ores were mixed with clay and sawdust and formed into bricks, which are then burned in a common kiln—a process similar to one common in the mines of Mexico and South America. The silver treated was from the Comstock. The silver is now in a state soluble in water, and the gold is free.

4014. **Pyrolusite,** Lower California; exact locality unknown.

4015. **Ore,** from Refugio Mine, Temescal District, Durango, Mexico; shows free gold. F. E. Monteverde.

4016. **Talcose Rock,** wall rock of the Idaho Mine, Grass Valley, Nevada County, California.

4017. **Slab with Fossils** (carboniferous?), Georgetown, Mimbres River, Grant County, New Mexico.

4018. **Electric Dischargers** (for firing blasts by electricity.) W. P. Jenney.

4019. **Iron Buttons,** obtained in crucibles from the Campo Seco iron ore, Calaveras County, California. (See No. 3765). C. Berger.

4020. **Gopher Snake** (Pituophis catenifer B. & G.), Saucelito. Melville Attwood.

4021. **Oil Painting** (from Raffaelo Senzio), by Montenegro. Max Burkhardt.

4022. **Oil Painting,** Lighthouse at Dieppe. Mrs. John H. Holt.

4023. **Oil Painting,** tropical scene in Mexico. Mrs. John H. Holt.

4024. **Rock Specimen** (so called Soap Rock), San Buenaventura, Ventura County, California. J. Z. Davis.

4025. **Rock Specimen** (Silicious Sinter), contains seventy-nine per cent of silica; determination by Dr. Wm. D. Johnston; silver ores are found in this formation; Custer County, Colorado. (See No. 4008.) D. T. Hughes.

4026. **Silver Ore,** Ontario Mine, Park City, Summit County, Utah (seventh level). W. P. Jenney.

4027. **Silver Ore,** Ontario Mine, Park City, Summit County, Utah (third level). W. P. Jenney.

4028. **Silver Ore,** Ontario Mine, Park City, Summit County, Utah (fifth level). W. P. Jenney.

4029. **Silver Ore,** Ontario Mine, Park City, Utah (croppings). W. P. Jenney.

4030. **Cream of Tartar** (containing ninety-seven per cent of bitartrate of potash), manufactured from California argols (see Nos. 4145–4210), Pacific Cream Tartar Works, San Francisco. Ad. Sommers.

4031. **Ornamental Inkstand,** of undoubted Chinese origin, being made of agalmatolite, a variety of pinite used by the Chinese for carving figures and ornaments; found at Lone Pine, Inyo County, California, several feet under ground, by Louis Munzinger, in digging the foundation of a brewery, and donated by him.

4032. **Gypsum** (Satin Spar), cut and polished, Derbyshire, England. J. Z. Davis.

4033. **Rough Diamond,** Spring Valley Hydraulic Mines, Cherokee Flat, Butte County, California. F. G. Williams.

Weight 180 milligrams. Found in cleaning up sluices, associated with zircons, gold, platinum, iridium, etc. Diamonds in considerable numbers have been found at this locality, but none of large size or first water

4034. **Black Scorpion** (Thelyphonus excubitor), New Mexico.

4035. **Quartz Crystals** (with Silver Ore), Sinaloa, Mexico. Mark Cornish.

4036. **Indian Relics,** supposed to have been used by the Shoshone Indians, Devil's Gate Canyon, White Pine, Nevada. F. N. Staples.

4037. **Pebble of Chalcedony,** which seems to contain a bubble of air or water, or both, but on polishing a similar specimen this appearance was found to be illusive, and is probably owing to the unequal refraction of light. Shoalwater Bay, Washington Territory. Charles A. Hughes.

4038. **Aquamarine** (a variety of Beryl), Siberia. Prof. H. A. Ward.

4039. **Copal Gum** (including Insect), Burmah. Prof. H. A. Ward.

4040. **Nephrite** (a variety of Amphibole, Precious Jade of the Chinese), China. Prof. H. A. Ward.

4041. **Epodite Crystals,** Sulzbachthal, Tyrol, Austria. Prof. H. A Ward.

4042. **Agalmatolite** (or Figure Stone of the Chinese), a variety of Massive Pinite, China. (See No. 4031.) Prof. H. A. Ward.

4043. **Placer Gold,** from the Nevada Hydraulic Mine, Chalk Bluff, Nevada County, California.

4044. **Iridium from California Gold,** it is found in varying quantities in the crucibles in which the gold is melted.

4045. **Lignite,** Icy Cape, Arctic Ocean. Charles A. Laws, First Assistant Engineer, U. S. Steamer Corwin.

4046. **Egg of Empress Goose,** St. Michaels, Alaska. Lieutenant M. A. Healy, U. S. Steamer Corwin.

4047. **Egg of Sea Fowl,** St. Michaels, Alaska. Lieutenant M. A. Healy, U. S. Steamer Corwin.

4048. **Fossil Fern in Schist,** River Ain, France.

4049. **Heads of Baked Clay.** Jay G. Kelley.

Taken from the Aztec Pyramid of "El Sol," near the Town of San Juan, forty miles from the City of Mexico. These faces have Egyptian and negro features. The Pyramid of "El Sol" is three hundred feet high, and has a square base like those of Egypt. Each side faces one of the cardinal points of the compass.

4050. **Chromate of Potash,** to illustrate the economic uses of chromic iron.

4051. **Bichromate of Potash,** to illustrate the economic uses of chromic iron.

4052. **Solar Salt,** Virginia Salt Marsh, Esmeralda County, Nevada. J. R. Scupham.

4053. **Borax Crystals,** found in the mud at Virginia Salt Marsh, Esmeralda County, Nevada. J. R. Scupham.

4054. **Dechenite** (Vanadate of Lead and Zinc), Morning Star Mine, Leadville, Colorado. Jay G. Kelley.

4055. **Scheelite,** from a quartz ledge on Howard Hill, Grass Valley, Nevada County, California. Chas. Mitchell.

4056. **Phosphorescent Dolomite,** "Hell Fire Rock" of the miners, Shenandoah Mine, Snake Creek District, Wahsatch County, Utah. D. B. Huntley. Another larger specimen from the Addie Mine, same locality. A. B. Paul.

4057. **Porphyry** (probably Diorite), Placer County, California. A. S. Coburn.

Said to be found in large quantities. A very beautiful building and ornamental stone, equal to the finest porphyries of Egypt and Europe.

4058. **Iron Ore.** Dr. William Jones.

Said to occur in large quantities one mile east of Sperry's Hotel, Murphy's, Calaveras County, California. Lies between belts of limestone and slate. Plenty of wood and water.

4059. **Iron Ore,** Skagitt River, Washington Territory. Henry Abbott.

Seems to be a mixture of limonite and magnetite. It gives water in glass tube, and is strongly magnetic, only partly soluble in acids. It is said to occur in large quantities with limestone and coal.

4060. **Ornamental Stone,** allied to agalmatolite (pagodite), etc. A hydrosilicate of alumina, magnesia, lime, iron, etc., San Luis Obispo County, California. W. H. Barton.

4061. **Indian Pipe of Red Stone,** Pima Villages, Arizona. Dr. William Jones.

4062. **Fossil Resin,** Hydraulic Mines at North Bloomfield, Nevada County, California, two hundred and eighty feet below the surface.

4063. **Silver Ore,** Walhall Mine, Calico Mountain, San Bernardino County, California. T. N. Wand.

4064. **Mica,** near Lang, Los Angeles County, California. J. R. Wolverton.

4065. **Conglomerate Bowlder,** Pescadero, San Mateo County, California. J. Z. Davis.

4066. **Hydrous Silicate of Alumina,** probably "Varicite" (See No. 3374), Columbus, Esmeralda County, Nevada. C. F. Allen.

Analysis by W. H. Souchley, M.E.: Water, 23.40; alumina, 30.13; insoluble, 0.51; phosphoric acid, 44.1; total, 98.21. Hardness, 5 to 5.5 specific gravity, 2.501 to 2.52. Soluble in caustic potash.

4067. **Terebratula** (Undetermined Fossil), near Fort Apache, Arizona. Patrick Gannon.

4068. **Fossils** (Undetermined), near Fort Apache, Arizona. Patrick Gannon.

4069. **Pink Calcite,** Small Hill Mine, Santa Catalina Island, California. Stephen Boushey.

4070. **Sphalerite** (Zinc Blende), with calcite, Small Hill Mine, Santa Catalina Island, California. Stephen Boushey.

4071. **Galena,** Small Hill Mine, Santa Catalina Island, California. Stephen Boushey.

4072. **Silver Ore,** Small Hill Mine, Santa Catalina Island, California. Stephen Boushey.

4073. **Silver Ore,** Silver King District, Calico Mountain, San Bernardino County, California. H. G. Maynard.

4074. **Silver Ore,** Oriental Mine, Calico Mountain, San Bernardino County, California. Judge James Walsh.

4075. **Silver Ore** (Embolite), Grapevine District, San Bernardino County, California. H. G. Maynard.

4076. **King or Horseshoe Crab** (Limulus, Sp.), Coast of New Jersey. J. Z. Davis.

4077. **Pisolite** (Carbonate of Lime), Humboldt County, Nevada, near Derby's Ranch, Hot Springs. John Flemming.

Each globule is a series of concentric shells, inclosing, frequently, a grain of sand as a nucleus.

4078. **Bog Iron Ore,** Island in the Straits of Georgia, Washington Territory. Henry Abbott.

4079. **Slate,** near Emigrant Gap, Placer County, California. W. H. Murray.

4080. **Cinnabar,** obtained in refining sulphur, from Sulphur Bank, Lake County, California, before it was known to be a valuable quicksilver mine.

4081. **Slag from Smelting Furnace** (probably Fayalite), the result of an overcharge of iron flux. F. E. Monteverde.

4082. **Iron Ore** (Pyritic), Laurel Hill, Mono County, California. James Maxwell.

4083. **Iron,** reduced from ore in a common crucible; mistaken for tin.

4084. **Mica,** near Ravenna, Los Angeles County, California. C. Sweet.

4085. **Barite** (Sulphate of Baryta), found in cleaning up at the Malakoff Mine, North Bloomfield, Nevada County, California.

4086. **Silver Ore,** San Juan de Dios Mine, Hermosillo District, Sonora, Mexico. F. E. Monteverde.

Said to contain silver to the value of $900 to the ton.

4087. **Picrolite,** from the Serpentine Rocks, Goleta, Santa Barbara County, California. J. Z. Davis.

4088. **Impure Manganese Ore,** containing rhodonite (silicate of manganese) and pyrolusite (binoxide of manganese), from a large deposit two miles north of Sonora, Tuolumne County, California, at an elevation of 200 feet above the surrounding country.

Course of vein, east and west. The vein is nine feet wide, ten feet below the surface; granite on the north side, slate on the south. It can be traced for a mile. Discovered in 1857 by Henry S. Macomber, by whom the specimen is presented.

4089. **Selenite** (Sulphate of Lime), San Emidio Antimony Mine, Kern County, California. S. Boushey.

4090. **Wall, or Country Rock,** San Emidio Antimony Mine, Kern County, California. S. Boushey.

4091. **Coal,** Hardwood Mine, Nanaimo, British Columbia, between the Wellington and Vancouver Mines. E. Franklin.

4092. **Stibnite** (Sulphide of Antimony), San Emidio Antimony Mine, Township 10 north, Range 21 west, San Bernardino meridian, Kern County, California. S. Boushey.

For description see "Pacific Railroad Reports," Vol. V, folio 291.

4093. **Silver Ore,** Prescott District, Bloody Cañon, Mono County, California.

Said to contain silver to the value of $51 46 per ton.

4094. **Auriferous Pyrite,** Kansas Mine, Fairplay, New Mexico. F. E. Monteverde.

4095. **Silver Ore,** Pyramid Mining Company, Lordsburg, New Mexico. F. E. Monteverde.

4096. **Lignite,** near Lexington, Santa Clara County. James G. Floyd.

Analysis: Volatile combustible matter, 29.5; fixed carbon, 47.0; water, 16.5; ash, 7.0; total, 100.0.

4097. **Silicified Wood,** near Teal's Marsh, Esmeralda County, Nevada.

4098. **Silver Ore,** Alice Mine, Butte Creek, Montana.

4099. **Stibnite** (Sulphide of Antimony), McLeod (?), San Benito County, California.

4100. **Clay,** five hundred and ten feet deep, basin of Clear Lake, five miles west of Soda Bay, Lake County, California. Charles Goodwin.

4101. **Clay,** five hundred and twenty-five feet deep, basin of Clear Lake, five miles west of Soda Bay, Lake County, California. Charles Goodwin.

4102. **Molybdenite** (Sulphide of Molybdenum), White Mountains, Inyo County, California.

4103. **Fine Indurated Sedimentary Deposit,** Tomales Bay, Marin County, California. A. W. Dana.

4104. **Silver Ore,** Glacier Mine, Santa Catalina, Pima County, Arizona.

4105. **Fire Clay** (?), Shasta County, California.

4106. **Blue Clay** (so called), three hundred feet from the Dudley Mine, Bodie, Mono County, California. Hon. Joseph Wasson.

4107. **Wall Rock** ("Cap Rock"), Carbon River Coal Mines, Washington Territory.

4108. **Silver Ore,** Beveridge District, Inyo County, California. T. McDonough.

4109. **Silver Ore,** May Belle Mine, Bodie, Mono County, California.

4110. **Silver Ore,** Legal Tender Mine, Grant County, New Mexico.

4111. **Silver Ore** (?), True Blue Mine, Mono Lake District, Mono County, California.

4112. **Porphyry,** seventy-five feet thick, Bodie Mine, Mono County, California. Hon. Joseph Wasson.

4113. **Silicified Wood,** twenty feet below the surface, San Luis Obispo County, California.

4114. **Native Bismuth,** Sorata, Bolivia. Melville Attwood.

4115. **Bismuthine,** Sorata, Bolivia. Melville Attwood.

4116. **Crude Petroleum,** near Spanishtown, San Mateo County, California. L. Ries.

4117. **Silver Ore** (?), Lake District (?), California.

4118. **Gold Ore,** Oro Fino Mine, Fresno County, California. Mr. Blanding.

4119. **Chalcopyrite** (Yellow Copper Ore), Beveridge District, Inyo County, California. T. McDonough.

4120. **Gold in Cellular Quartz,** Beveridge District, Inyo County, California. T. McDonough.

4121. **Mineral Wool,** slag blown from the tuyeres of an iron furnace. F. E. Monteverde.

This material much resembles the peculiar lava known as Pele's hair, which is liquid lava blown into threads by the wind, found at the volcano of Mauna Loa, Hawaii, Sandwich Islands.

4122. **Piece of Limestone,** worn smooth by the hands of miners, Eulaha Mine, near Chihuahua, Mexico.

4123. **Minium** (Red Oxide of Lead), and **Vanadinite** (Vanadate of Lead), Picket Post, Pinal County, Arizona.

4124. **Pyrolusite** (Binoxide of Manganese), Knopp's Ranch, near Columbia, Tuolumne County, California.

Found on the surface in bowlders, from the size of grapes to one hundred pounds in weight.

4125. **Silver Ore,** Hackberry Mine, Mohave County, Arizona.

4126. **Molybdenite** (Sulphide of Molybdenum), Fresno Flat, Fresno County, California. William Speckerman.

4127. **Quartz Crystals,** milky, doubly terminated, Warstein, Westphalia, Germany. J. Z. Davis.

4128. **Silver Lead Ores,** Beveridge, Inyo County, California. T. McDonough.

4129. **Silver Ore,** Silver King Mine, Myers' District, Arizona. F. E. Monteverde.

4130. **Silver Ore,** Panamint, Inyo County, California.

4131. **Silver Ore,** Sitka, Alaska.

4132. **Brecciated Rock,** Coal Mine, Eureka County, Nevada. Hank Mitchell.

4133. **Productus** (Carboniferous Fossils), Coal Mine, Eureka County, Nevada. Hank Mitchell.

4134. **Silver Ore,** Ella Blossom Mine, Prescott District, head of Bloody Cañon, Mono County, California. R. H. Brady.

4135. **Cinnabar,** separated in refining sulphur, Sulphur Bank, Lake County, California. (See No. 4080.)

4136. **Silver Ore,** Silver Cliff Mine, West Mountain Valley (?), Colorado.

4137. **Copper Ore** (Chalcopyrite), near Lexington, Santa Clara County, California.

4138. **Bituminous Coal,** Ratoon Mountains, New Mexico. S. Heydenfeldt, Jr.

4139. **Magnetite Crystals** (perfect octahedrons), Shasta County, California. B. B. Minor.

4140. **Nodule of Pyrite,** found with silver ore, Iron Mountain, Shasta County, California. R. H. Sinton.

4141. **Sulphur,** Gillis Mountain, Esmeralda County, Nevada.

4142. **Nodule of Sandstone** (pear-shaped), San Lorenzo River, near Santa Cruz, Santa Cruz County, California. J. Z. Davis.

4143. **Quartz Crystal** (smoky), Beveridge, Inyo County, California. T. McDonough.

4144. **Portion of a Strap or Band,** showing the method of fastening used on hydraulic mining pipe, to strengthen weak parts and to allow slip at the joints.

4145. **Crude Argols,** Krug's Vineyard, St. Helena, Napa County, California. S. P. Connor.

4146. **Serpentine,** Monterey, Monterey County, California. J. Z. Davis.

4147. **Calcite** (Limestone), Santa Cruz County, California. J. Z. Davis.

4148. **Iron Ore** (Limonite), near Latrobe, El Dorado County, California.

Vein twenty feet wide. Plenty of wood, water, and limestone. Analysis: Sesquioxide of iron, 78.27; protoxide of iron, 0.80; silica, 6.51; water, 14.75; sulphur, 0.57; phosphorus, 0.02; total, 100.92; metallic iron equals 55.41 per cent.

4149. **Quartz** (wood opal), Placer County, California. J. Z. Davis.

4150. **Bowlder of Fine Grained Diorite or Basalt,** Folsom, Sacramento County, California. J. Z. Davis.

Strongly resembling serpentine externally.

4151. **Asphaltum Nodules or Water-worn Bowlders,** found on the beach at Santa Barbara, California. J. Z. Davis.

4152. **Silicified Wood,** large and remarkably fine specimen, Placer County, California. J. Z. Davis.

4153. **Indurated Sand Stratum,** four feet above the beach, Pescadero, San Mateo County, California. J. Z. Davis.

4154. **Specular Iron Ore,** Island of Elba.

4155. **Zeolite** (undetermined) **in Lava,** North Fork Mining District, Fresno County, California. Morris Burke.

4156. **Auriferous Quartz,** Carga Muchacho Mine, twelve miles west of Fort Yuma, San Diego County, California.

Up to June 17, 1882, this mine has produced 14,000 tons of quartz, which yielded in the mill at El Rio, $167,000. This statement is made by Mr. Wm. Sublette, by whom the specimen is donated.

4157. **Alloquachick,** shell money of the Klamath Indians of California. John Daggett.

4158. **Pearls from the Abalone Shell** (Haliotis), Island of Santa Cruz, off the County of Santa Barbara, California. J. Z. Davis.

4159. **Arrow Head of Chalcedony,** found in the principal street of the new town of Calico, San Bernardino County, California. John Daggett.

4160. **Ancient Roman Coins.** J. T. Smith.

4161. **Ancient Roman Coins.** J. T. Smith.

4162. **Ancient Roman Coins.** J. T. Smith.

4163. **Link of an Iron Chain,** found at the camp of the lost emigrants in Death Valley, Inyo County, California. (See No. 3998.) James E. Parker.

The following is an extract from the *Inyo Independent* of August 12, 1882: "Some weeks ago the *Independent* recorded the fact that a relic (an iron ring) of the ill-fated immigrant party in Death Valley had been found, and would be sent to the State Museum. Mr. Hanks acknowledges the receipt of the memento, as follows: 'Your letter of July tenth came to hand, as did the Death Valley relics referred to. We have a rusty pocket knife from the same locality, which, together with the ring sent by you, I consider valuable historic relics, and a desirable addition to the State Museum.' The knife was found and presented to the Museum by Mr. T. F. A. Connelly, of this place."

4164. **Incisor Tooth of an Undetermined Animal,** found in volcanic tufa, in close proximity with the tusks of an elephant, in 1865, ten feet below the surface, at Murphy's Camp, Calaveras County, California. W. Jones, M.D.

4165. **Pecten Irradians,** Lam, New Jersey. J. Z. Davis.

4166. **Gold Quartz,** Dudley Mine, Meadow Lake District, Nevada County, California. Charles Dudley.

4167. **Barite** (Sulphate of Baryta), found also as a gangue with silver ore, Calico District, San Bernardino County, California. John Daggett.

4168. **Auriferous Quartz** (Telluric), Jones' Mine, Carson Creek, Calaveras County, Old Carson Creek Gold and Silver Mining Company. W. Jones, M.D.

4169. **Gold in Mispickel** (Arsenical Pyrites), near Georgetown, El Dorado County, California. L. L. Alexander.

4170. **Portion of the Tusk of an Elephant or Mastodon,** from the Indian Spring Drift Mine, Butte County, California, three hundred and twenty feet below the lava. A. B. Paul.

4171. **Tusk of a Boar or Peccary** (?), found one thousand seven hundred feet in tunnel, and three hundred feet below the lava and gravel, and near the elephant's tusk (No. 4170), Indian Spring Drift Mine, Butte County, California. A. B. Paul.

4172. **Molybdenite** (Sulphide of Molybdenum), near Lewis, Lander County, Nevada. J. W. Statler, Jr.

4173. **Cyprina Expansa** (Cretaceous Fossil), Maryborough, Queensland, Australia. Queensland Museum, Brisbane.

4174. **Inoceramus Problematicus** (Cretaceous Fossil), Marathon Station, Flinders River, Queensland. Queensland Museum, Brisbane.

4175. **Cucullæa Robusta** (Cretaceous Fossil), Maryborough, Queensland. Queensland Museum, Brisbane.

4176. **Avicula Hiendenensis** (Cretaceous Fossil), Hienden Station, Upper Flinders River, Queensland. Queensland Museum, Brisbane.

4177. **Nucula Quadrata** (Cretaceous Fossil), Maryborough, Queensland. Queensland Museum, Brisbane.

4178. **Glossopteris Browniana** (Carboniferous Fossil), Dawson River, Queensland. Queensland Museum, Brisbane.

4179. **Filicitis Lineata** (Carboniferous Fossil), Denmark Hill, Ipswich, Queensland. Queensland Museum, Brisbane.

4180. **Pecopteris Odontopteroides, Morris** (Carboniferous Fossil), Tivoli Coal Mine, Ipswich, Queensland. Queensland Museum, Brisbane.

4181. **Chromic Iron,** strongly resembling the ores found in California, Queensland. Queensland Museum, Brisbane.

4182. **Galena**, Northcote, Queensland. Queensland Museum, Brisbane.

4183. **Pyrolusite** (Binoxide of Manganese), Passim, Queensland. Queensland Museum, Brisbane.

4184. **Coal**, Ipswich, Queensland. Queensland Museum, Brisbane.

4185. **Cinnabar** (Sulphuret of Mercury), Kilkivan, Queensland. Queensland Museum, Brisbane.

4186. **Cannel Coal**, Queensland. Queensland Museum, Brisbane.

4187. **Cassiterite** (Lode Tin Ore), Passim, Queensland. Queensland Museum, Brisbane.

4188. **Opal in Matrix**, Barcoo, Queensland. Queensland Museum, Brisbane.

4189. **Pimelite** (Silicate of Nickel and Alumina), Queensland. Queensland Museum, Brisbane.

4190. **Selbite** (Carbonate of Silver, Antimony, and Copper), supposed to be a mechanical mixture of argentite, dolomite, and silver, Golden Age Reef, Booruk, Queensland. Queensland Museum, Brisbane.

4191. **Gold in Red Copper Ore**, Queensland. Queensland Museum, Brisbane.

4192. **Gold in Limonite**, Queensland. Queensland Museum, Brisbane.

4193. **Gold in Calcite**, Queensland. Queensland Museum, Brisbane.

4194. **Gold in Bismutite**, Queensland. Queensland Museum, Brisbane.

4195. **Gold in Black Tourmaline**, Queensland. Queensland Museum, Brisbane.

4196. **Chromic Iron**, near Mountain House, near Downieville, Sierra County, California. E. W. Cook.

4197. **Auriferous Sands,** Pioneer Mining Company, Upper Gold Bluff, Humboldt County, California. Dr. J. W. Hood.

4198. **Gold Washed from Sands** (see No. 4197), Upper Gold Bluff, Humboldt County, California. Dr. J. W. Hood.

4199. **Platiniridium,** washed from beach sands (see No. 4197), Upper Gold Bluff, Humboldt County, California. Dr. J. W. Hood.

4200. **Fossil Horse Bones** (Post Tertiary), two bones of carpus, found between the Columbia and Snake Rivers, seventy miles north of Walla Walla. Geo. M. Sternberg, Surgeon U. S. Army.

4201. **Fossil Horse Bones** (Post Tertiary), Astragalus, found between the Columbia and Snake Rivers, seventy miles north of Walla Walla. George M. Sternberg, M.D.

4202. **Fossil Horse Bones** (Post Tertiary), middle phalangeal bone, found between the Columbia and Snake Rivers, seventy miles north of Walla Walla. George M. Sternberg, M.D.

4203. **Fossil Horse Bones** (Post Tertiary), first and middle phalangeal bones of a smaller individual or species, found between the Columbia and Snake Rivers, seventy miles north of Walla Walla. Geo. M. Sternberg, M.D.

4204. **Fossil Horse Bones** (Post Tertiary), head of metacarpal bone, found between the Columbia and Snake Rivers, seventy miles north of Walla Walla. George M. Sternberg, M.D.

4205. **Fossil Horse Bones** (Post Tertiary), tooth, found between the Columbia and Snake Rivers, seventy miles north of Walla Walla. George M. Sternberg, M.D.

4206. **Fossil Horse Bones** (Post Tertiary), tooth, found between the Columbia and Snake Rivers, seventy miles north of Walla Walla. George M. Sternberg, M.D.

4207. **Fossil Horse Bones** (Post Tertiary), tooth, found between the Columbia and Snake Rivers, seventy miles north of Walla Walla. Geo. M. Sternberg, M.D.

4208. **Terra Cotta Vase,** reproduction of an antique Roman Nuptial Vase, owned by the Misses Bruce, of New York, and placed on exhibition in the Metropolitan Museum, Central Park, New York.

The original was made to commemorate a princely marriage, and upon the death of the bride and the groom was placed on their tomb, where it remained for more than 22 centuries.

The original is much admired for the unique combination of the vases, and as showing the perfection attained in the ceramic art at that early period.

The figures on the larger vase present the customary bridal procession proceeding from the place of marriage to the future home of the bride and bridegroom, who are seen standing in the chariot drawn by four horses. Beautiful maidens lead the way, bearing torches and playing on musical instruments. The two parties of armed men are enacting a play. The party in the foreground are supposed to have risen up from ambush to capture and bear off the bride, but are repelled by the armed escort following the chariot; after which the procession proceeded to the mansion shown on the opposite side of the vase, where the newly wedded pair were received by the mother-in-law and other lady relatives, having torches to light them to the interior of their new domicile, as was the custom of the ancient Romans. By the firm union of the two vases the ancient artist expressed the idea that marriage should be an indissoluble bond. The same principle is exemplified by the double handles of the smaller vase. As the original of this vase has never before been copied, owing to the difficulty of making, joining, drying, and burning so large a piece, owing to the lack of competent artists, Gladding, McBean & Co. having in their employ the most skillful worker in plastic clay work in the United States, caused this production to be made to show their artist's skill and give to the people of the Pacific Coast an opportunity to see an interesting and beautiful piece of terra cotta.

This vase is made of California clay, and is presented to the State Museum by Gladding, McBean & Co., Potters, 1310 Market Street, whose works are at Lincoln, Placer County, California.

4209. **Chalcedony,** near Aurora, Esmeralda County, Nevada. F. E. Smith.

4210. **Crude Argols,** taken from the interior of California wine casks. (See No. 4145.)

4211. **Fine Grained Galena,** Hidalgo Mine, Inyo County, California.

4212. **Rock Specimen** (undetermined), Eureka, Humboldt County, California. Geo. C. Sarvis.

4213. **Actinolite,** Eureka, Humboldt County, California. Geo. C. Sarvis.

4214. **Lava with Zeolite,** Eureka, Humboldt County, California. Geo. C. Sarvis.

4215. **Sandstone,** suitable for building stone, Eureka, Humboldt County, California. Geo. C. Sarvis.

4216. **Pyritic Ore** (Auriferous), Star of the West Mine, West Point, Calaveras County, California. Hon. D. M. Burns.

4217. **Ancient Relic,** found at Gridley, Butte County, California. J. A. Manter.

The following description is from the Gridley *Herald* of August 24, 1882:

ANCIENT RELIC.—While playing in the timber in the northern part of town, Monday, one of J. A. Manter's little boys found the rifled barrel of a pistol. It is four inches in length, thicker than the barrel of a Winchester, and is blackened with rust. The bore is about a 44. The tube is all right, and with a new stock the weapon would be ready for use. At the breech, by the side of the nipple, is a small gold plate. Viewed through a watchmaker's eye-glass can be plainly seen engraved on this plate the letters "H. McG." Believing that the weapon had a history, a *Herald* reporter began investigating, and has ascertained the following from old timers, who speak from information obtained in the early days: In the Fall of 1839, a party of Mexicans passed northward through this valley, en route to a grant presumed to be in the neighborhood of where Chico is now located. The train belonged to a wealthy Mexican named Lopezada. Himself and family were with the outfit. He had a daughter about sixteen years of age. She is represented to have been the embodiment of the grace and beauty peculiar to the Castilian race. Among the attachés of the caravan were one American, named Thomas Lansing, hailing from Vermont, and a Scotchman, named Harvey McGruigan. The latter was secretary to the Don and "messed" with the family. Lansing was the wagon boss. Both men had lived several years in Mexico, and spoke the language fluently. Each became smitten with the girl. She favored McGruigan. Lansing was a fiery tempered man, and sought a row with his successful rival upon every opportunity. Matters progressed thus until this locality was reached, when Lansing insulted McGruigan in such a manner that the latter yielded to passion, and challenged him to fight a duel. The two men repaired to the grove of timber, then occupying our town site, and settled their difficulties. Three shots were fired by each. In the third round McGruigan fell with a bullet in his brain. Lansing received a shot in the left arm, and had the lobe of one of his ears cut away. As he turned to leave the scene, the girl, who had followed them from the camp, stepped out from behind a tree and stabbed him in the neck with a stiletto, severing the jugular and producing death almost instantly. The pistol found Monday is thought to be the identical one used by McGruigan. Its appearance and characterizing features go to establish the truth of that presumption.

4218. **Tridacna Gigas,** South Sea Islands. Presented by J. Z. Davis.

The generic name *tridacna*, is from two Greek words—*tri*, three, and *dakno*, to bite. The name seems to be derived from a passage in the 32d book of Pliny's "Natural History," Chapter XXI, in which is mentioned that the expedition of Alexander revealed the fact that oysters were found in the Indian Sea which were a foot in diameter, and that certain gourmands had given to large oysters the whimsical name of *tridacna*, adding to their zest by the jest, inferring that it required three bites to eat them. The specific name *gigas*, is Latin for giant. In Cook's "Voyages," cockles are mentioned as being found in the Pacific which two men were not able to carry. Captain Cook also states that the animal of this species sometimes weighs twenty pounds, and is good eating. Darwin also mentions gigantic bivalves seen in the lagoon at Keeling, Cocos Island, but he classes the shell as the *chama*. A pair of the valves of the *tridacna gigas* are used in the church of St. Sulpice, Paris, as *benitiers* or holy water fonts. They weigh upwards of 500 pounds, and are two feet across, probably about the size of Mr. Davis' donation. They were sent to Francis I by the Republic of Venice. They are objects of special interest in the magnificent church, and are highly prized.

4219. **Impressions of Leaves in the so called "White Lava,"** two miles from San Andreas, Calaveras County, California. Dr. William Jones.

This specimen seems to prove two facts: First, the formation must have been soft, to admit of the leaves being imbedded; second, the lava could not have been in an igneous state or the leaves would have been burned, and could not possibly have left their impression as seen in the specimen. The formation must have been volcanic mud, which preceded the igneous flow of true lava with which it is capped.

4220. **Kaolin,** seven miles southeast of the town of Grass Valley, Nevada County, California, Section 3, Township 15 north, Range 9 east; deposit, six feet thick; surveyed area, about ten acres; actual area, unknown. Presented by J. W. De Goha.

For analysis see report of Prof. Hilgard, in the annual report of the State University for 1881.

4221. **Sample of the Clay No. 4220,** burning done by Gladding, McBean & Co.

Burned in a potter's kiln, which shows it to be well fitted for the manufacture of fine pottery.

4222. **Native Copper,** Mammoth Mine, Patagonia Mountains, Pima County, Arizona. E. M. Alderman.

The vein is said to be four feet wide, and has sheets of metallic copper like the specimen running through the vein, parallel to the walls. The sheets are from one to four inches apart, and by careful work could be got out of almost any size.

4223. **Native Copper,** with copper minerals, in a gangue of sulphate of baryta, with specimen mounted for microscopic examination, from a ledge in the southern corner of Trinity County, California. William Ayres.

The ledge is said, by the donor, to be very prominent, and can be seen running in a straight line for twenty miles from the south toward Mt. Shasta.

4224. **Platinum, Iridium, Etc.,** concentrations from the Spring Valley Hydraulic Mine, Cherokee, Butte County, California. Louis Glass.

4225. **Placer Gold in Cement,** Spring Valley Hydraulic Mine, Cherokee, Butte County, California. Louis Glass.

4226. **Portion of an Oak Tree, Showing Carved Inscription overgrown by Solid Wood,** Yosemite Valley, California. John Kirk Barnard.

This section of tree was taken some eighteen feet from the ground. Outside it showed the scar of a former "blaze," and on splitting it, discovered the following inscription: "Miss Haight, J. Welty," and a monogram of R in a D. The overgrown wood has entirely covered the carving, growing into it and reproducing, in relief, the whole inscription, with most remarkable exactness. The overgrowth shows some nineteen rings, giving some idea of the time elapsing since it was carved. Any person knowing the above parties will please communicate with the Mining Bureau, with a view to ascertain the date of the carving.

4227. **Fragment from a Bowlder of Basaltic Lava,** Plains between Oroville and Pence, Butte County, California.

Concave on one side, convex on the other, showing how angular fragments of rock weather into rounded bowlders, without water-washing.

4228. **Basaltic Lava, Showing a Scale,** which is due to oxidation of iron to limonite, near Doon's Mill, Butte County, California.

4229. **Persbergite** (Cordierite), (Dichroite), Persberg, Sweden.

4230. **Silver Ore,** Jones Mine, four miles from Angels, Calaveras County, California. W. H. Porter.

4231. **Chalcopyrite,** Illapel Copper Mine, Copiapo, Chile. F. Casanueva.

4232. **Pyrite and Chalcopyrite,** Coquimbo, Chile. F. Casanueva.

4233. **Iron Ore,** Pacific Coal and Iron Mine, Skagitt River, Washington Territory. Henry Abbott.

4234. **Free Silver, in Gangue of Barite,** Waterman & Porter Mine, Grapevine District, San Bernardino County, California. J. S. Waterman.

4235. **Coal,** Monterey County, California, Township 22 south, Range 13 east, Mt. Diablo meridian.

4236. **Mica Schist,** Berkeley Hills, Alameda County, California. Robert Walkinshaw.

4237. **Bronzite,** Berkeley Hills, Alameda County, California. Robert Walkinshaw.

4238. **Magnetic Sands,** Mouth of Russian River, Sonoma County, California. Robert Walkinshaw.

4239. **Schist with Garnets,** Mouth of Russian River, Sonoma County, California. Robert Walkinshaw.

4240. **Chalcopyrite** (Sulphides of Copper and Iron), Karta Bay, Alaska. Caleb T. Fay.

4241. **Fossils in Sandstone** (undetermined), found with Lignite, Wrangel Land, Corwin Expedition. J. B. Haggin.

4242. **Rock Specimen** (marked "Iron Ore"), Chimney Rock Mine, Township 4 south, Range 10 west, Mt. Diablo meridian.

This is certainly not an iron ore, although it seems to contain specular iron in small quantities.

4243. **Lithographic Stone** (?), Santa Maria, near Mulege, Lower California, Mexico.

4244. Deposit from Paso Diablo Springs, Inyo County, California. S. D. Woodhull.

4245. **Jacobsite,** Jacobsberg, Sweden.

4246. **Specular Iron,** Sierra Madre, between San Ignacio and San Borxas, Lower California, Mexico. J. G. Moraga.

4247. **Foliated Talc, with Chalcopyrite,** San Diego County, California. M. J. Amick.

4248. **Indian Mortar,** Dogtown, Butte County, California.

4249. **Alum Slates,** near Auburn, Placer County, California. G. H. Hawes.

4250. **Alum,** crystallized from No. 4249, near Auburn, Placer County, California. G. H. Hawes.

4251. **Alum Schist,** Oregon, near the line of Baker County and Nevada. J. C. Weir.

4252. **Alum,** from No. 4251, which see.

4253. **Magnetite,** Snoqualmie Pass, Cascade Mountains, Kings County, Washington Territory. John Leary.

4254. **Iron Ore** (Magnetite), Clarksville, El Dorado County, California. T. B. Everett.

4255. **Fragment of Diorite,** changing to a pebble without the agency of water (see No. 4227), Owl's Head Mining District, Pinal County, Arizona. William Clarke.

4256. **Obsidian Arrow Heads,** Sonoma County, California. J. H. Butler.

4257. **Copper Ore,** Genesee Valley, Plumas County, California. B. D. Russell.

4258. **Sandstone** (?) (stained red), Santa Margarita Ranch, San Diego County, California, near San Luis Rey. Chalmers Scott.

4259. **Glaucophane Rock,** wall rock of the Collier Mine, six miles northeast from Murphy's, Calaveras County, California. Richard Cohen.

4260. **Chalcedony,** San Borxas, Lower California. J. C. Moraga.

4261. **Thinolite, Branching from a Shell** (Unio), Humboldt County, Nevada. J. K. Colerick.

4262. **Lepidolite, Pink and White, with Azurite,** vein matter of the Half Dollar Mine, Inyo County, California, shaft seventy-five feet deep. Morris Burke.

4263. **Sepiolite,** Half Dollar Mine, Inyo County, California. Morris Burke.

4264. **Erubesite,** Arctic Lode, Dos Cabezas District, Cochise County, Arizona. J. D. Emersley.

Said to have yielded Iridium at the United States Mint at New Orleans, but this is probably a mistake.

4265. **Lava, with Zeolite,** Eureka, Humboldt County, California. George C. Sarvis.

4266. **Hornblende Rock,** Gold Run, Placer County, California. Levi Dorman.

4267. **Rock Specimen** (not determined), near Colfax, Placer County, California. Col. E. H. Price.

4268. **Silver Ore,** Atherton Mine, Garfield District, Esmeralda County, Nevada. Joshua Moss.

4269. **Silver Ore,** Lancashire Mine, Garfield District, Esmeralda County, Nevada. Joshua Moss.

4270. **Silver Ore,** Bolton Mine, Garfield District, Esmeralda County, Nevada. Joshua Moss.

4271. **Silver Ore,** Astley Mine, Garfield District, Esmeralda County, Nevada.

4272. **Clay** (specially suited for the manufacture of fire bricks), Michigan Bar, Sacramento County, California. Gladding, McBean & Co.

4273. **Salt,** Inyo Range, forty miles northeast of Independence, and near to Benton, Mono County, California. J. H. Crossman.

4274. **Copper Ore** (Chalcopyrite), two miles from Phelps' Springs, Stony Creek, Colusa County, California. W. H. Wilson.

4275. **Crude Petroleum,** Monterey County, California. H. Hawkshurst.

4276. **Crude Petroleum,** San Luis Obispo County, California. Jos. Sheerer.

4277. **Silver Ore,** Manchester Mine, Garfield District, Esmeralda County, Nevada. Joshua Moss.

4278. **Cement** (containing gold), McKinnon's Flat, Calaveras County, California. Hugh Gallagher.

4279. **Argentiferous Galena** (with Blende and Geocronite), Garibaldi Mine, Prescott District, Mono County, California. J. Casarello.

4280. **Silver Ore,** Champion Mine, Prescott District, Mono County, California. J. Casarello.

4281. **Silver Ore,** Snowdrift Mine, Prescott District. Mono County, California. J. Casarello.

4282. **Salt Rock** (Island Salt), Union Pacific Salt Company, Alameda County, California.

4283. **Chalcedony,** Los Angeles County, California. N. Wynants.

4284. **Ear of Indian Corn,** on which the grains are formed on the inside as well as on the outside, brought by the Chacenuca Indians to Pinoegana, head of navigation on the Tuyra River, forty miles from the coast, Isthmus of Panama. J. H. Crossman.

4285. **Hematite after Magnetite** (Martite), from a crevice in the Iron Mountain, Durango, Mexico. Wm. Currie.

4286. **Sand Impregnated with Asphaltum,** Santa Cruz County, California. N. Wynants.

4287. **Ores Containing Tellurium**, Jones' Mine, Old Carson Creek Gold and Silver Mining Company, Carson Creek, Calaveras County, California. Dr. Wm. Jones.

4288. **Priceite** (Borate of Lime), (see No. 157), Lone Ranch, Chetco, Curry County, Oregon. Mrs. J. Cresswell.

4289. **Green Jade** (Nephrite), New Caledonia. S. Heydenfeldt, Jr.

4290. **Neuropteris Hirsuta** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4291. **Neuropteris Hirsuta**, with Petiolar Leaflets, Mazon Creek, Illinois. J. Z. Davis.

4292. **Neuropteris Inflata** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4293. **Neuropteris Clarksonii** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4294. **Neuropteris Vermicularis** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4295. **Neuropteris Rarinervis** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4296. **Neuropteris Cyclopteris** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4297. **Pecopteris Villosa** (Brngt.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4298. **Pecopteris Unita** (Brngt.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4299. **Pecopteris Polymorpha** (Brngt.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4300. **Pecopteris Abbreviata** (Brngt.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4301. **Pecopteris Squamosa** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4302. **Pecopteris Strongii** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4303. **Pecopteris Arguta** (Brngt.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4304. **Pseudopecopteris Arguta** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4305. **Alethopteris Serlii** (Brngt.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4306. **Alethopteris Mazoniana** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4307. **Asterophyllites Equisetiformis** (Schloth), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4308. **Annularia Inflata** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4309. **Annularia Sphenophylloides** (Zenk.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4310. **Annularia Longifola** (Brngt.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4311. **Annularia Longifola** (Brngt.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4312. **Alethopteris Hallii** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4313. **Equisetites** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4314. **Lepidostrobus** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4315. **Hymenophyllites Lactuca** (Stern.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4316. **Odontopteris Hetrophylla** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4317. **Hymenophyllites Crassicaulis** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4318. **Lepidodendron fronds** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4319. **Calamites Approximatus** (Schloth), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4320. **Knorria** (Stern.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4321. **Coprolite**, Fossil Animal Remains, Mazon Creek, Illinois. J. Z. Davis.

4322. **Undetermined Fossil Plant**, Mazon Creek. Illinois. J. Z. Davis.

4323. **Dadoxylon Wateramum** (Dawson), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4324. **Caulopteris** (Lesq.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4325. **Euproops Danæ** (M. & W.), Fossil Animal, Mazon Creek, Illinois. J. Z. Davis.

4326. **Anthracopalemon Gracilis** (M. & W.), Fossil Animal, Mazon Creek, Illinois. J. Z. Davis.

4327. **Palæocaris Typus** (M. & W.), Fossil Animal, Mazon Creek, Illinois. J. Z. Davis.

4328. **Acanthotelson Stimpsonii** (M. & W.), Fossil Animal, Mazon Creek, Illinois. J. Z. Davis.

4329. **Fish Scales** (Fossil), Mazon Creek, Illinois. J. Z. Davis.

4330. **Miamia Bronsoni** (Dana), Fossil Insect, Mazon Creek, Illinois. J. Z. Davis.

4331. **Shell** (Fossil), Mazon Creek, Illinois. J. Z. Davis.

4332. **Curious Concretions**, not determined; thought to be Coprolites, near Pine Grove, Amador County, California. S. W. Collins.

4333. **Silver Ore**, Sommer's Kentucky Mine, Sweetwater Mountains, Esmeralda County, Nevada. J. F. Johnson.

4334. **Rock Specimen** (so called porphyry), found associated with No. 4333, Sweetwater Mountains, Esmeralda County, Nevada. J. F. Johnson.

4335. **Actinolite**, Santa Rosa, Sonoma County, California. A. W. Dana.

4336. **Mountain Leather** (Amphibole), Little Grass Valley Mine, Pine Grove District, Amador County, California. S. W. Collins.

4337. **Impure Pyrolusite**, St. Helena Mountain, Napa County, California. M. Skinner.

4338. **Cubical Pyrites**, Knox & Osborn Mine, Calaveras County, California (see No. 2826). Knox & Osborn.

4339. **Actinolite**, Spanish Ranch, Plumas County, California. Mrs. A. Keep.

4340. **Rock Resembling Halleflinta**, Spanish Ranch, Plumas County, California. Col. Albert Keep.

4341. **Breccia of Red Jasper in White Quartz**, Glenbrook, Lake County, California. H. A. Aldrich.

4342. **Fine Sedimentary Silt**, Line of Idaho and Montana, on North Pacific Railroad, twenty or thirty miles southeast of Pen d' Oreille Lake. A. W. Dana.

4343. **Stigmaria ficoides** (Brngt.), Fossil Plant, Mazon Creek, Illinois. J. Z. Davis.

4344. **Magnetite**, Magnetic Iron Ore, San Benito County, California, fourteen miles from Hollister, Sections 31 and 6, Township 16 south, Range 6 east, San Benito Iron Mine; occurs in large quantities with limestone. Charles Sellers.

4345. **Apatite Crystals**, Renfew County, Ontario, Canada. D. R. Mackillican.

4346. **Apatite**; massive; used largely as a fertilizer; Ottawa County, Quebec, Canada. D. R. Mackillican.

4347. **Menaccanite Crystals**, Renfew County, Ontario, Canada. D. R. Mackillican.

4348. **Zircon**, Renfew County, Ontario, Canada. D. R. Mackillican.

4349. **Quicksilver Ore** with Chalcedony and Stibnite (sulphide of antimony), Lake Quicksilver Mine, Lake County, California. Knox & Osborn.

The mine joins the Manhattan, a well known quicksilver mine, and the above is from a depth of sixty feet. This specimen shows the association of antimony and mercury, which is common not only in California, but in other localities.

4350. **Garnets,** San Borxas, Lower California, Mexico. J. G. Morgan.

4351. **Copper Ore,** Beveridge District, Inyo County, California. T. Donough.

4352. **Amarillo Wood,** Piece of a timber which was twelve feet through, found at a depth of twenty-eight feet in one of the lost mines of Cana, Isthmus of Darien, ninety miles south of Panama, forty miles in the interior.

Work was commenced on these mines in 1618. They were abandoned in 1772, owing to a cave which is reported to have buried a large number of miners. Examined for reopening in 1880, by Mr. James H. Crossman, who presents this relic to the Mining Bureau. The whole piece from which this was taken was in a good state of preservation when found by Mr. Crossman in 1880.

4353. **Fossil Bone,** taken from a cliff one hundred feet from the surface and ten feet above the beach at Pescadero, San Mateo County, California. There are sixty-two distinct strata above where it was found. The locality is two miles west of the town. J. Z. Davis.

4354. **Antimony Ore,** Stibnite, said to contain gold, near Kernville, Kern County, California. Dr. S. G. George.

4355. **Cinnabar and Calcite,** Old Napa Con. Q. M. Co., Pope Valley, Napa County, California. Joseph Osborn.

4356. **Hematite,** Diamond Springs Township, El Dorado County, California. N. D. Buckingham.

The following information is furnished with the specimen: One thousand tons shipped to San Francisco several years ago, were used in the manufacture of iron. The deposit is sixty feet wide; a ledge of marble runs parallel and some distance to the east, say one hundred feet. The block of marble which California sent to the Washington monument came from this ledge. A tunnel is driven in about one hundred and twenty feet, which cuts the ledge sixty feet below the surface. At another point they have sunk a shaft about forty feet, all in ore. Plenty of wood for charcoal. Water costs five cents per inch. Charcoal is now worth fifteen cents—could be furnished for eight cents per bushel.

4357. **Pyritic Ore,** auriferous, Meadow Lake District, Nevada County, California, U. S. Grant Mine. J. B. Griffin.

4358. **Copper Ores,** Chile. F. Casanueva.

4359. **Calcareous Tufa,** near the Carbon River Coal Mines, Washington Territory.

4360. **Turquoise,** New Mexico. S. Heydenfeldt, Jr.

4361. **Satin Spar** (Gypsum), San Bernardino County, California. H. G. Maynard.

4362. **Auriferous Quartz,** Baltimore Mine, near Kelsey's, El Dorado County, California. Charles J. Pilsbury.

4363. **Turritella humboldtii** (Von Buch), cretaceous fossil, Atacama, Chile.

4364. **Gold Quartz,** Mark Twain Mine, Angel's Camp, Calaveras County, California, croppings, very rich in gold. A. M. Alexander.

4365. **Molybdenite,** Sulphide of Molybdenum, mistaken for Graphite, Inyo County, California. S. D. Woodhull.

4366. **Mispickel,** Arsenical Pyrites, rich in gold, Belmont, Nye County, Nevada. Geo. W. Emerson.

4367. **Cryolite,** with Chalybite (Carbonate of Iron), Greenland. A. H. Fracker.

4368. **Serpulorbis squamigerus** (Cpr.), recent shell, Santa Barbara, California. J. Z. Davis.

4369. **Asbestus,** containing gold, Lundagai, New South Wales. P. Davies.

4370. **Stream Bismuth,** Ethridge River, Queensland, Australia. P. Davies.

4371. **Alluvial Gold,** from South Lead Gold Mining Company's mines, Forbes, New South Wales; at a depth of two hundred and fifty feet; formation, tertiary drift; bedrock beneath the gravels, lower silurian slates, with belts of intrusive diorite. P. Davies.

4372. **Zircons, Rubies,** and other minerals, New Chum Hill Hydraulic Mine, Kiandra, Australia, 5,000 feet above the sea. P. Davies.

4373. **Slag** containing globules of metallic copper, from water jacket furnace, Soda Springs, Esmeralda County, Nevada. J. H. Crossman.

4374. **Pebbles** found in auriferous wash, South Lead, Forbes, New South Wales. P. Davies.

4375. **Auriferous Pyrites,** Excelsior Mine, Meadow Lake District, Nevada County, California. H. H. Hartley.

4376. **Blue Limestone or Marble,** with veins of white, Pence, Butte County, California.

It is soluble in hydrochloric acid with effervescence, leaving a small hepatic residue—when struck with a hammer it emits a fetid odor—anthraconite—burns to a pure white lime, which slakes perfectly. This stone is well adapted for building purposes, as a useful and ornamental stone. Valuable also for manufacturing purposes.

4377. **Rough Diamond,** probably from the African diamond fields, used in salting the ground in the well known diamond swindle. Donated by H. Eleau.

4378. **Silver Spanish Dollar,** coined in 1806, Carolus IV Dei Gratia.

Dredged from the wreck of the Spanish line-of-battle ship San Pedro de Alcantara, of one hundred guns, which, in the year 1815, was burned off the islands of Coche, Culagua, and Margarita, coast of Venezuela. Of the 1,300 men on board, 1,000 lost their lives. The wreck lies in nine fathoms of water, and the money scattered by the explosion was found in eight fathoms of water. Records in Spain show that she had $4,000,000 on board. In 1846 $200,000 were recovered by the use of diving bells. In 1880 Mr. T. H. Folingsby, with a dredger of his own construction, collected $2,000, of which this is one, and was by him donated to the State Museum.

4379. **Copper Ore,** Santa Fe District, six miles from Luning, Esmeralda County, Nevada. The bright red portion consists of the oxides of copper and iron, and is probably "tile ore," or "Ziegelerz" of the German mineralogists. J. H. Crossman.

4380. **Galena** (Sulphide of Lead), said to exist in large quantities, and to contain $150 per ton in silver, Golovine Bay, north of Norton Sound, Alaska, Alaska Gold and Silver Mining, Milling, and Trading Company. Col. A. F. Williams.

4381. **Fossil Ferns,** Carboniferous, France. Henry G. Hanks.

4382. **Iron Ore,** Hematite and Limonite, Potter's Iron Mine, bank of Pit River, one mile from the fisheries. E. P. Figg.

4383. **Magnetite,** Potter's Iron Mine, bank of Pit River, one mile from the fisheries. E. P. Figg.

4384. **Indian Mortar of Porphyry,** showing unusual skill in construction, and of a very beautiful and unusual material, found near the forks of the Salmon River, Siskiyou County, California. Hon. John Daggett.

4385. **Indian Pestle,** found near the forks of the Salmon River, Siskiyou County, California. Hon. John Daggett.

4386. **Pyrite,** containing also Sulphide of Copper in small quantities, called "white ore," San Francisco Copper Mine, Spenceville, Nevada County, California. John E. Ellis.

4387. **Copper Ore,** selected, principally Chalcopyrite, San Francisco Copper Mine, Spenceville, Nevada County, California. John E. Ellis.

4388. **Copper Matte,** concentrated by roasting in heaps, allied to erubescite; by this process the rich copper matte forms a kernel in a mass of protoxide of iron; San Francisco Copper Mine, Spenceville, Nevada County, California. John E. Ellis.

4389. **Copper Ore Roasted,** San Francisco Copper Mine, Spenceville, Nevada County, California. John E. Ellis.

4390. **Copper Cement,** metallic copper in the form of a powder, precipitated from solution by scrap iron; iron replaces the copper in the solution, forming sulphate of iron, while the copper falls; is dried and shipped to a market; San Francisco Copper Mine, Spenceville, Nevada County, California. John E. Ellis.

4391. **Stone Hatchet,** Celt, County Antrim, Ireland. Dudley C. Stone.

4392. **Fruit of the Pochote Tree,** a pod about ten inches long, tapering at the ends, and swelling in the center to two and a half inches in diameter. The shell is secured by wires to keep the contents confined.

Mr. Noel Marriotte, who donates this specimen, says: "Take off the wire around it, and leave it in a quiet place; in a few days it will open. The inside is like beautiful silk. In time separate the silk from the shell that it may not be stained by it. The silk is so light that if you do not put it in a glass case, it will blow away." In Mexico the silk fiber is used for filling pillows, cushions, and even mattresses.

4393. **Seeds from the Pochote Tree** (No. 4392). Noel Marriotte.

4394. **Silk from the Pochote Tree** (No. 4392). Noel Marriotte.

4395. **Opals,** Stockton Hill, Mokelumne Hill, Calaveras County, California. When this locality was first discovered, many years ago, the opals were thought to be of great value, and considerable capital and labor were expended to prove them worthless. James Osborn.

4396. **Glass Tube,** containing the products, natural and artificial, of the Sulphur Bank Quicksilver Mine, Lake County, California. H. M. Caldwell.

4397. **Ore** from the Mammoth Mine, Baker County, Oregon, eleven feet from footwall. John Leary.

4398. **Ore** from the Mammoth Mine, Baker County, Oregon, ninety feet from the northwest corner; this specimen is rich in copper. John Leary.

4399. **Rich Copper Ore** from the Mammoth Mine, Baker County, Oregon, thirty-eight feet southeast of the Monument. John Leary.

4400. **Erubescite** from the Mammoth Mine, Baker County, Oregon. John Leary.

4401. **Silver Ore,** Mina el Hambre, Manizales, Antioquia, United States of Colombia. Carlos Faulhaber.

4402. **Silver Ore,** Mina Marulanda, Manizales, Antioquia, United States of Colombia. Carlos Faulhaber.

4403. **Silver Ore,** Mina Cascada, Minizales, Antioquia, United States of Colombia. Carlos Faulhaber.

4404. **Alum** (?), near Newhall, Los Angeles County, California. N. Wynants.

4405. **Pyritic Ores,** claimed to be rich in gold, Chile. F. Casanueva.

4406. **White Lava,** so called, probably indurated volcanic ash, Southern Pacific Railroad, Los Angeles County, California. Charles W. Brown.

4407. **Helix,** Sp. (?), Recent Shell, County Antrim, Ireland. Dudley C. Stone.

4408. **Unio patulus** (Lea.), Recent Shell, Ohio.

4409. **Unio phaseolus** (Hild.), Recent Shell, White River, Indiana.

4410. **Unio bigbyensis** (Lea.), Recent Shell, Georgia.

4411. **Unio crassatus** (Lea.), Recent Shell, Georgia.

4412. **Unio cuneolus** (Lea.), Recent Shell, Tennessee.

4413. **Unio decisus** (Lea.), Recent Shell, Alabama River.

4414. **Unio fulvus** (Lea.), Recent Shell, South Carolina.

4415. **Piece of a Wooden Pile** bored by Teredo navalis. J. Z. Davis.

4416. **Unio metastriatus** (Con.), female, Recent Shell, North Alabama.

4417. **Unio palelloides** (Lea.), Recent Shell, Clinch River, Tennessee.

4418. **Margaritina complanata** (Bar.), Recent Shell, Ohio River.

4419. **Unio mardiensis** (Lea.), Recent Shell, Tigris River, Assyria.

4420. **Malleus vulgaris,** Recent Shell, Australian seas. J. Z. Davis.

4421. **Conus litteratus** (Lin.), Recent Shell, Japan.

4422. **Harpa articularis** (Lam.), Recent Shell, Japan.

4423. **Pteroceras lambis** (Lin.), Recent Shell, Japan.

4424. **Ricinula tuberculata,** Recent Shell, Japan.

4425. **Mytilus** Sp. (?), Recent Shell, Hongkong, China.

4426. **Trochus acutus,** Recent Shell, Nagasaki, Japan.

4427. **Mytilus dunkeri,** Recent Shell, Nagasaki, Japan.

4428. **Voluta vespertilio** (Lin.), Recent Shell, Japan.

4429. **Pyrula tuber** (Gmenlin), Recent Shell, Japan.

4430. **Eburna** Sp. (?), Recent Shell, Japan.

4431. **Trochus nigricolor,** Recent Shell, Japan.

4432. **Solen siliqua** (Lin.), Recent Shell, Japan.

4433. **Conus betulinus** (Lin.), Recent Shell, Japan.

4434. **Mya arenaria,** Recent Shell, Japan.

4435. **Solen ambigua** (Lam.), Recent Shell, Japan.

4436. **Tellina** Sp. (?), Recent Shell, Japan.

4437. **Limnæa,** Recent Shell, Japan.

4438. **Lampania multiformis,** Recent Shell, Japan.

4439. **Ostrea** Sp. (?), Recent Shell, taken from the bottom of a ship in Japanese waters.

4440. **Mactra sulcataria,** Recent Shell, Japan.

4441. **Limnæa auracuaria,** Recent Shell, Japan.

4442. **Rapana** Sp. (?), Recent Shell, Japan.

4443. **Casis undatus,** Recent Shell, South Seas.

4444. **Conus** Sp. (?), Recent Shell, Japan.

4445. **Strombus entomanus** (Linn.), Recent Shell, Japan.

4446. **Conus mustalinas** (?), Recent Shell, Japan.

4447. **Pecten** Sp. (?), Recent Shell, Japan.

4448. **Patella nigro-lineata,** Recent Shell, Japan.

4449. **Salt,** Owens River Valley, Inyo County, California, between Bishop Creek and Big Pine; said to occur in large quantities. J. H. Stoutenborough.

4450. **Clay Slate,** with crystal of Andalusite imbedded (See No. 1795), Fresno County, California. Mrs. A. E. Bush.

4451. **Variegated Sandstone,** near Buchanan Copper Mine, Fresno County, California. Mrs. A. E. Bush.

4452. **Calcite** (Iceland Spar, Carbonate of Lime), Santa Clara County, California. Mrs. A. E. Bush.

4453. **Auriferous Quartz, with Calcite, also Auriferous,** Star Mine, near Mud Springs, El Dorado County, California. C. J. Pilsbury.

Some small specimens brought to the Mining Bureau from the same locality were wholly calcite, in which free gold was imbedded, which led to the impression that the whole fissure was filled with that mineral. This specimen shows this to be a mistake. The occurrence of calcite in mineral veins is not uncommon. The gold in this mine is light colored, from being alloyed with silver—electrum. This and the presence of calcite shows a mineral vein unlike the common quartz ledges of the State, indicating silver and other minerals at a greater depth.

4454. **Molybdenite,** South Fork of the King's River, Fresno County, California, fifty-five miles northeast of Visalia. Dr. S. G. George.

4455. **Cinnabar with Metacinnabarite,** Bonanza Mine, Douglass County, Oregon. John Winterburn.

4456. **Cuprite with Native Copper,** Trinity County, California (See No. 4223). William Ayres.

4457. **Copper Ore** (principally chalcopyrite), Old Hat District, Pinal County, Arizona. William Clarke.

4458. **Molybdenite** (Sulphide of Molybdenum), with chalcopyrite, Old Hat District, Pinal County, Arizona. William Clarke.

4459. **Slickensides,** polished surface caused by movement of the walls of a mine or formation, Old Hat District, Pinal County, Arizona. William Clarke.

4460. **Molybdenite** (Sulphide of Molybdenum), Mammoth Mine, Baker County, Oregon. John Leary.

4461. **Copper Ore,** Buchanan Mine, Fresno County, California. Mrs. A. E. Bush.

4462. **Wall Rock, Slate,** Santa Anita Mine, near the Washington Mine, Poorman's Creek, Nevada County, California. F. Sletcher.

4463. **Vein Matter,** Santa Anita Mine, Poorman's Creek, Nevada County, California. F. Sletcher.

4464. **Asbestus,** Bear Valley, Mariposa County, California. Edward M. Price

4465. **Selenite** (Gypsum), Bear Valley, Mariposa County, California. Deposit two feet thick. Edward M. Price.

4466. **Calcareous Tufa** (Formation Springs), Soda Springs, Bear River, Idaho. Presented by Peter Decker.

There are five specimens formed on blades of grass and other vegetable matter which remains in them, showing the mode of deposit. For detailed account of this remarkable locality, with engraving of the springs, see "Geological and Geographical Survey of the Territories of Idaho and Wyoming," Hayden, 1877, folio 593. See, also, "Fremont's First and Second Expeditions," 1842-3-4, folio 138.

4467. **Bird's Feather,** coated with carbonate of lime, Formation Springs, Idaho (See No. 4466). Peter Decker.

4468. **Alum Incrustation,** found ten miles north of Santa Rosa, Sonoma County, California. C. W. Frost.

4469. **Limonite,** near Murphy's, Calaveras County, California. E. H. Schaeffle.

4470. **Chromic Iron,** near Murphy's, Calaveras County, California. E. H. Schaeffle.

4471. **White Lava** (so called) Indurated Volcanic Ash, near Murphy's, Calaveras County, California. E. H. Schaeffle.

4472. **Steatite,** near Murphy's, Calaveras County, California. E. H. Schaeffle.

4473. **Sedimentary Deposit,** found in digging a well, at a depth of seventy-five feet, near Roseville Station, Placer County, California.

4474. **Copper Ore,** principally Chalcopyrite, Sections 12 and 13, Township 15 north, Range 6 east, Placer County, California. E. W. Roberts.

4475. **Root** (resembling an owl's head), found on the beach, San Francisco Bay, near Martinez. J. Z. Davis.

4476. **Silver Ore,** showing wire silver, Belle of Butte Mine, Idaho (?).

4477. **Crude Ozocerite,** Southern Utah. J. R. Scupham.

4478. **Mica,** New York and Dakota Mining Company, Custer County, Dakota Territory.

4479. **Section of Asphaltum Pavement,** as laid in San Francisco, generally on a layer of soft brick, sometimes on redwood boards; composition, to four squares (400 square feet) 500 pounds of asphaltum, one ton of coarse gravel and fifteen gallons of coal tar from the gas works, the whole boiled five hours.

4480. **Sandstone,** Glenn Mills, San Mateo County, California.

4481. **Cannel Coal,** West Virginia.

4482. **Cellular Lava,** fifty miles from the Yaqui River, Sonora, Mexico. D. W. C. Morgan.

4483. **White Dolomite,** Amargosa Wash, San Bernardino County, California. This mineral is very common in the Inyo Mountains. J. H. Colerich.

4484. **Fossil Bone,** Santa Cruz Island, California. J. Z. Davis.

4485. **Copper Ore,** principally Chalcopyrite, Bullion District, Plumas County, California. W. E. Ward.

4486. **Copper Ore** (Chalcosite), Enterprise Mine, Bullion District, Plumas County, California. W. E. Ward.

4487. **Impressions of Fossil Leaves,** in shale, overlying coal or lignite, east of the base of Mount Hamilton, Santa Clara County, California. J. R. Scupham.

4488. **Rock Specimen**, silicious, but probably changed from pisolite; an interesting specimen which should be carefully studied, Cañonville, Grant County, Oregon. P. Harvey, M.D.

4489. **Bog Iron Ore**, showing vegetable structure, Lava District, near Lost River, Idaho. A. E. Roberts.

4490. **Insect in Bog Iron Ore**, Lava District, near Lost River, Idaho. This insect, being imbedded, seems to prove that the iron ore was at one time plastic. Presented by A. E. Roberts.

4491. **Gold in Quartz**, cut and polished specimen, Diadem Quartz Mine, Edman District, Plumas County, California. J. A. Edman.

4492. **Galena**, Muldoon Mine, Little Wood River, Alturas County, Idaho. A. E. Roberts.

4493. **Lead Bullion**, from Muldoon Mine, Little Wood River, Alturas County, Idaho (See No. 4492). A. E. Roberts.

4494. **Slag from lead furnace**, Muldoon Mine, Little Wood River, Alturas County, Idaho (see No. 4492). A. E. Roberts.

4495. **Furnace product**, Muldoon Furnace, Little Wood River, Alturas County, Idaho (see No. 4492). A. E. Roberts.

4496. **Molybdenite**, Vancouver Island, British Columbia. H. Green.

4497. **Quartz Crystal**, with included rutile, San Jacinto Mining District, Humboldt County, Nevada. W. D. Linton.

4498. **Lithomarge**, Lassen County, California.

4499. **Volcanic Ash**, Chalk Bluffs, Nevada County, California.

4500. **Clay**, from an artesian well ninety-eight feet deep, near Willow Street, San Antonio, Alameda County, California. Dr. S. G. George.

4501. **Fluorite**, Cuneo, Piedmont, Italy.

4502. **Diopside,** with garnet and clinochlore, Piedmont, Italy.

4503. **Sulphur Crystals,** Sicily, Italy.

4504. **Calcite Crystals,** Traversella, Piedmont, Italy.

4505. **Dolomite,** with pyrite on quartz, Traversella, Piedmont, Italy.

4506. **Manganidocrase,** on calcite, Valley of Ala, Piedmont, Italy.

4507. **Selenite,** Piedmont, Italy.

4508. **Orthoclase,** near Lake Maggiore, Italy.

4509. **Siderite,** Lenticular Crystals, Traversella, Piedmont, Italy.

4510. **Siderite Crystals,** on Magnetite, Traversella, Piedmont, Italy.

4511. **Garnets,** Traversella, Piedmont, Italy.

4512. **Greenovite,** Manganiferous Titanite, St. Marcel, Valley of Aosta, Piedmont, Italy.

4513. **Barite,** Piedmont, Italy.

4514. **Diopside Crystals,** Piedmont, Italy.

4515. **Epidote,** with quartz crystals, Traversella, Piedmont, Italy.

4516. **Mica Crystals,** Traversella, Piedmont, Italy.

4517. **Epidote Crystals,** Valley of Ala, Piedmont, Italy.

4518. **Chloritoid,** St. Marcel, Valley D'Aosta, Piedmont, Italy.

4519. **Magnetite Crystals,** Traversella, Piedmont, Italy.

4520. **Anglesite Crystals,** on Galena, Sardinia, Italy.

4521. **Dolomite Crystals,** with Calcite, Traversella, Piedmont, Italy.

4522. **Clinochlore Crystals,** Piedmont, Italy.

4523. **Violan,** a variety of Pyroxene, St. Marcel, Valley of Aosta, Piedmont, Italy.

4524. **Calcite Crystals,** Traversella, Piedmont, Italy.

4525. **Mussite,** a variety of Pyroxene, Mussa Alp, Piedmont, Italy.

4526. **Idocrase Crystals,** Mussa Alp, Piedmont, Italy.

4527. **Calcite Crystals,** Traversella, Piedmont, Italy.

4528. **Celestine Crystals,** with Sulphur, Sicily, Italy.

4529. **Specular Iron** (Hematite), on quartz crystals, Traversella, Piedmont, Italy.

4530. **Giobertite,** Magnesite, Baldissero, Piedmont, Italy.

4531. **Calcite Crystals,** Valley of Susa, Piedmont, Italy.

4532. **Grossular Garnet,** La Mussa, Piedmont, Italy.

4533. **Dolomite Crystals,** Traversella, Piedmont, Italy.

4534. **Pyroxene,** Traversella, Piedmont, Italy.

4535. **Vesuvianite,** Idocrase, Mussa Alp, Piedmont, Italy.

4536. **Tourmaline,** Piedmont, Italy.

4537. **Garnets,** Topazolite, Mussa Alp, Piedmont, Italy.

4538. **Talc,** Traversella, Piedmont, Italy.

4539. **Scheelite Crystals,** in Calcite, Traversella, Piedmont, Italy.

4540. **Piedmontite,** St. Marcel, Valley of Aosta, Piedmont, Italy.

4541. **Native Gold** (Electrum), with bornite and quartz, Ollomont, Valley of Aosta, Piedmont, Italy.

4542. **Apatite,** on Chlorite, Piedmont, Italy.

4543. **Garnets,** in Mica, Italy.

4544. **Garnet,** Melanite, Rome, Italy.

4545. **Iolite,** Traversella, Piedmont, Italy.

4546. **Pyrite Crystals,** Traversella, Piedmont, Italy.

4547. **Blue Beryl,** Mount Blanco, Italy.

4548. **Gastaldite** (?), Valley of Aosta, Piedmont, Italy.

4549. **Spondylus costatus** (Lam.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4550. **Pecten latissimus** (Brocchi.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4551. **Strombus mercatii** (Desh.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4552. **Venus islandicoides,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4553. **Hinnites crispus** (Bronn.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4554. **Conus aldovrandii** (Brocchi.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Upper Italy.

4555. **Murex torularius** (Lam.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4556. **Microscope Slide,** Crystallized Gold, White Bull Mine, Linn County, Oregon.

See Report State Mineralogist for 1882, folio 144.

4557. **Microscope Slide,** Gold amalgam (?), Lake Mine, Napa County, California.

Several pans of dirt were taken from the gulch, washed down in a miner's pan to a small quantity, a portion of mercury added, the mercury separated without rubbing, and boiled in nitric acid, these crystals remained. An attempt was made to produce similar crystals by treating precipitated gold in the same manner, but without success.

4558. **Microscope Slide,** Gold from a quartz mine, Beveridge, Inyo County, California.

Some of the gold is rolled into cylinders under the muller while being crushed.

4559. **Microscope Slide,** Placer Gold from Upper San Joaquin River, Fresno County, California.

This gold is fine and free from coating, except to a slight degree on some of the pieces. It shows a tendency to crystallize.

4560. **Microscope Slide,** Placer Gold, San Luis Obispo County, California.

Very pure and free from coating.

4561. **Microscope Slide,** Placer Gold from shores of Mono Lake, Mono County, California.

This gold is remarkably pure and free from coating. It amalgamates perfectly and immediately on being brought in contact with mercury.

4562. **Microscope Slide,** Placer Gold, Chile Gulch, Calaveras County, California.

This gold is in a cryptocrystalline state not easy to account for. Many of the grains inclose quartz, which would seem to indicate that it has its origin in some quartz vein in the immediate vicinity. It differs from ordinary placer gold, and may have been collected by mercury and overheated in the retort. The Mining Bureau has no history of this specimen more than is shown in the label.

4563. **Microscope Slide,** Electrum, Bodie, Mono County, California.

See First Annual Report of State Mineralogist, folio 25.

4564. **Microscope Slide,** Gold and Platinum, beach at Coos Bay, Coos County, Oregon.

See Report of State Mineralogist for 1882, folio 252.

4565. **Microscope Slide,** Typical specimen of Coated or "Rusty" Gold, Red Hill Hydraulic Mine, Butte County, California.

All attempts to collect such gold by amalgamation result in failure; for this reason a large proportion of the placer gold, and especially that from the ancient river beds, is lost to the world. The loss is so great, and the matter so serious, that miners, inventors, and scientific men should attempt to devise some plan by which such gold may be saved. Attention is called to this subject in Report of State Mineralogist for 1882, folio 117.

4566. **Microscope Slide,** Rusty or Coated Gold, from a large deposit of tailings below Oroville, Butte County, California.

Described in First Annual Report of State Mineralogist, folio 39. It may be seen that the particles of gold are not to the same extent coated, but that all are more or less so.

4567. **Microscope Slide,** Placer Gold from the Bonanza Hydraulic Mine, Gold Run, Placer County, California, collected in crevicing.

The particles are considerably coated. Crevicing has been described in Report of State Mineralogist for 1882, folio 113.

4568. **Microscope Slide,** Placer Gold, coated with silica by pressure and friction, from the Blue Lead bedrock, below the gravel, Chalk Bluffs, Nevada County, California.

4569. **Microscope Slide,** Placer Gold with pyrite and magnetite, Nevada County, California.

The gold is, to a considerable extent, coated.

4570. **Microscope Slide,** Hydraulic Gold, amalgamated and boiled in nitric acid, by which the mercury was dissolved.

The product is beautifully crystallized. The gold used was amorphous.

4571. **Microscope Slide,** Gold precipitated from solution of sesquichloride by solution of protosulphate of iron.

4572. **Microscope Slide,** Precipitated Gold (see No. 4571), amalgamated and boiled in nitric acid.

It is cryptocrystalline, but in no way resembles No. 4570, or No. 4557, which might be expected.

4573. **Microscope Slide,** Gold (portion E, Report of State Mineralogist for 1882, folio 114) from Spring Valley Hydraulic Mine, Butte County, California.

This gold was in the form of amalgam, from which the mercury was volatilized by heating to redness in a porcelain capsule.

4574. **Microscope Slide,** Platinum with iridosmine, Mormon Island, Sacramento County, California.

4575. **Microscope Slide,** Platinum and iridium, concentrations from Spring Valley Hydraulic Mine, Cherokee, Butte County, California.

See No. 4224, and Report of State Mineralogist for 1882, folio 252.

4576. **Microscope Slide,** concentrations from placer washings, Chiquita Joaquin, Fresno County, California.

Containing zircons with gold; curious as showing gold in two conditions, as pure gold, or nearly so, and as electrum, a natural alloy of gold and silver. (See No. 4563.)

4577. **Microscope Slide,** Gem Sand (so called), Lower Gold Bluffs, Humboldt County, California.

Containing gold, platinum, magnetite, chromite, quartz, zircons, and red crystals. It is the result of natural concentration by the action of the waves on the ocean beach.

4578. **Microscope Slide,** concentration from Spring Valley Hydraulic Mine, Cherokee Flat, Fresno County, California. (Portion D.)

Zircons picked out by hand. See Report of State Mineralogist of 1882, folio 114.

4579. **Microscope Slide,** Zircon Sands, Amador County, California.

Concentrated in placer mining.

4580. **Microscope Slide,** Dune Sands, San Francisco, California.

Described in Report of State Mineralogist of 1882, folio 196. All, or nearly all, of the grains are rounded. In this deposit, which is quite extensive near the City of San Francisco, there are beds of iron sands in varying states of decomposition, showing how some sandstones are mottled and become shaded in process of induration.

4581. **Microscope Slide,** Fine Sand from the Colorado Desert, San Diego County, California.

The grains are rounded by the action of both water and wind. See Report of State Mineralogist for 1882, folio 236.

4582. **Microscope Slide,** Fine Sand from Spring Valley Hydraulic Mine, Cherokee, Butte County, California.

All the grains are angular.

4583. **Microscope Slide,** Fine Quartz Sand from the Polar Star Hydraulic Mine, Dutch Flat, Placer County, California. (Portion H, after boiling in nitric acid.)

See Report of State Mineralogist for 1882, folio 101. All the grains are sharp and angular.

4584. **Microscope Slide,** Tryonia Clathrata, tertiary fossils mentioned in Report of State Mineralogist of 1882, folio 229, Colorado Desert, San Diego County, California.

4585. **Microscope Slide,** Placer Gold with globular pyrite in the form of sand, Last Chance Mining District, Placer County, California. Presented by John Hemsley.

This gold is but slightly coated. The small concavities are in some cases coated with silica, and some grains show the pyrite attached. The gold is remarkably fine, probably the most so of any in the State, being 996 fine. The pyritic sand is very interesting when examined microscopically. This association is rather rare. The exact locality is Section 34, Township 15 north, Range 12 east, Mount Diablo meridian

4586. **Venus eccentrica** (Ag.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4587. **Venus plicata** (Gmel.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4588. **Venus cincta** (Ag.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4589. **Pecten flabbelliformis,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4590. **Chama gryphina** (Lam.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4591. **Ranella marginata,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4592. **Cardita pectinata,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4593. **Ostrea foliosa,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4594. **Ostrea undulata** (Lam.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4595. **Tellina planata** (Linn.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4596. **Cypræa elongata** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4597. **Cypræa porcellus** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4598. **Cypræa europæa,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4599. **Cypræa sphræiculata,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4600. **Gold in Calcite,** Palma Mine, Cerro Gordo, Inyo County, California. (See No. 4453, in which a similar association of minerals occurs.) S. D. Woodhull.

4601. **Bismutite,** Carbonate of Bismuth, Stream Bismuth, found with gold in dry washing near Phœnix, Maricopa County, Arizona. William K. Sime.

4602. **Trigonocarpon,** Carboniferous (coal measures) Fossil, Stark County, Illinois.

4603. **Crinoid stems,** Carboniferous Fossils, Stark County, Illinois.

4604. **Syenite,** Facings of the Great Pyramid of Egypt. William W. Young.

4605. **Porphyry,** from pavement of Hadrian's Villa, Tivoli, eighteen miles from Rome. William W. Young.

4606. **Lode Tin Ore,** with quartz gangue, Grampians, New England, New South Wales. Philip Davies.

4607. **Coarse Sample of Tin Ore,** Torrington, New England, New South Wales. Philip Davies.

4608. **Tin Ore,** granite formation, rich in tin, Deep Water, New England, New South Wales. Philip Davies.

4609. **Tin Ore with Sulphur,** Torrington Mine, New England, New South Wales. Philip Davies.

4610. **Tin Mixture,** quartz and granite, Torrington, New England, New South Wales. Philip Davies.

4611. **Cassiterite** (oxide of tin), found in ancient river beds covered with irregular deposits of trap rocks, New England, New South Wales. Philip Davies.

4612. **Surface Tin Ore,** Vegetable Creek, New England, New South Wales. Philip Davies.

4613. **Cancellaria cancellata** (Lam.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4614. **Cancellaria nodulosa** (Lam.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4615. **Cerithium varicosum** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4616. **Cardita intermedia** (Lam.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4617. **Cassis texta** (Bronn.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4618. **Turbo rugosus** (Linn.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4619. **Natica millepunctata** (Lam.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4620. **Cassidaria varicosa** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4621. **Chenopus pes-pelicani** (Phil.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4622. **Pollia turrita,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4623. **Vermetus gigas** (Riv.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4624. **Natica olla,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4625. **Clavatula interrupta** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4626. **Cancellaria uniangulata** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4627. **Pyrula intermedia,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4628. **Venus chione,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4629. **Solarium variegatum** (Lam.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4630. **Murex imbricatus** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4631. **Fissurella neglecta** (Desh.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4632. **Oxidized Copper Ore,** containing but little if any Sulphur, Illinois Mine, Santa Fé Mining District, Esmeralda County, Nevada. S. E. Holcomb.

4633. **Foot Wall** of copper mines, Santa Fé District, Esmeralda County, Nevada. S. E. Holcomb.

4634. **Wall Rocks** of copper mines (No. 4632), Santa Fé District, Esmeralda County, Nevada. S. E. Holcomb.

4635. **Artificial Fuel,** Cory's Patent, made from waste coal and specially adapted to lignite. Edward Booth.

4636. **Silver Ore,** El Capitan Mine, Queen Springs, White Pine County, Nevada.

4637. **Hematite,** after Pyrite. By this expression it is meant that the mineral was formerly pyrite or sulphuret of iron, and has changed to hematite or sesquioxide of iron, without alteration of crystalline form. Minerals so changed are called Pseudomorphs. Pecos River Plains, Texas. Louis Basse.

4638. **Pebbles of Obsidian,** found with gold and stream bismuth (see No. 4601) in dry washings near Phœnix, Maricopa County, Arizona. Wm. K. Sime.

4639. **Arrowhead** of Jasper, Eastern Oregon. Andrew Elliott.

4640. **Chromic Iron,** found on the road from St. Helena to Knoxville, Lake County, California, said to exist in large quantities. Wm. D. Bassett.

4641. **Bismutite** (Stream Bismuth), found in sluicing for gold, Big Pine Creek, Inyo County, California. T. F. A. Connelly.

4642. **White Porcelain Clay,** Amador County—exact locality unknown.

4643. **Stibnite,** seven miles from Los Angeles, Los Angeles County, California. Thomas G. Hunter.

4644. **Magnetite,** thirty miles north of Los Angeles, Los Angeles County, California. Thomas G. Hunter.

4645. **Wulfenite** (Molybdate of Lead), Lucin District, Elko County, Nevada.

4646. **Porcelain Clay** (Kaolin), Amador County, near Sacramento. N. Clark & Sons, Agents Pacific and Sacramento Potteries.

4647. **Gypsum,** crystallized, near Calico District, San Bernardino County, California. Hon. John Daggett.

4648. **Rose Quartz,** Bradford, New York. J. Z. Davis.

4649. **Conglomerate** (Pudding Stone), cut and polished, St. Albans, England. J. Z. Davis.

4650. **Cyanite in Quartz,** Yancey County, North Carolina. J. Z. Davis.

4651. **Leopardite,** Charlotte, North Carolina. J. Z. Davis.

4652. **Iron Ore** (Hematite), from a ledge, said to crop out 800 feet in length, near the Amador Gravel Mine, two and half miles northeast from Jackson, Amador County, California. Isaac Bluxome.

4653. **Native Copper,** with Cuprite (Red Oxide of Copper), Meadow Lake, Placer County, California. H. H. Hartley.

4654. **Limestone,** containing fossils, weathered by drifting sand, found in Death Valley, Inyo County, California. J. E. Parker.

4655. **Solar Salt,** Teel's Marsh, Esmeralda County, Nevada. Smith Brothers.

4656. **Artemis orbicularis** (Ag.), Upper Pliocene Fossil, Alessandria, Northern Italy.

4657. **Amethyst,** large crystal, Lake Superior. J. Z. Davis.

4658. **Amethyst,** mass of small crystals, Lake Superior. J. Z. Davis.

4659. **Pectolite** (see No. 1819), Bergen Hill, New Jersey. J. Z. Davis.

4660. **Garnets,** Southbury, Connecticut. J. Z. Davis.

4661. **Garnets,** Bethel, Connecticut. J. Z. Davis.

4662. **Red Aragonite,** Eastern States. J. Z. Davis.

4663. **Fluorite** (Fluor Spar), with Calcite, Cumberland, England. J. Z. Davis.

4664. **Selenite** (Gypsum), near Modesto, Stanislaus County, California. L. Figuera.

4665. **Brown Stone,** Freestone (of which New York is largely built), Connecticut. M. Heverin.

4666. **Copper Ore**, Copper King Mine, Esmeralda County, Nevada.

4667. **Wall Rocks** of the Copper King Copper Mine (No. 4666), Esmeralda County, Nevada.

4668. **Crude Borax**, Eagle Borax Mining Company, Death Valley, Inyo County, California. I. Daunet.

4669. **Refined Borax** (see No. 4668), Eagle Borax Company, Death Valley, Inyo County, California. I. Daunet.

4670. **Sesquioxide of Iron**, Gothite (?), with microscope slide; this mineral is in beautiful hexagonal plates, near Luning, Esmeralda County, Nevada. A similar mineral is found at Pioche, Lincoln County, Nevada (see No. 4671). Arthur T. George.

4671. **Gothite** (?), in microscopic crystals (see No. 4670), with microscope slide, Pioche, Lincoln County, Nevada.

4672. **Selenite** (Gypsum), Calico, San Bernardino County, California. John Daggett.

4673. **Lava**, which exists in immense quantities on the borders of Mono Lake, Mono County, California.

Owens River cuts through this formation in a deep cañon. It is easily decomposed, and supposed to yield the soda salts so abundant in that region. It crops out also at Adobe Meadows, in Mono County. It is well worthy of a critical examination.

4674. **Variegated Obsidian**, near the southern end of Goose Lake, Modoc County, California. F. H. Merrill.

4675. **Carbonate of Magnesia**, obtained in the tanks in working the mother liquors in the manufacture of salt by the Union Pacific Salt Company, Alameda County, California. Fr. Gutzkow.

4676. **Rock Specimen**, fragment detached in cutting the base of the State line monument, near McBride's Ranch, Mono County, California. Hon. J. M. Keeler.

4677. **Fluor Spar**, near Belmont, Nye County, Nevada. Geo. W. Emerson.

4678. **Chromic Iron,** Mount Hope District, near Forbestown, Butte County, California. C. C. Cooledge.

4679. **Rock Specimen,** detached in cutting the shaft of the State line monument between California and Nevada, near McBride's Ranch, Mono County, California (see No. 4676). Hon. J. M. Keeler.

4680. **Tin Foil,** to illustrate the economic uses of tin. S. Heydenfeldt, Jr.

4681. **Clay** (ball clay), City Pottery, Trenton, New Jersey. John Rhodes.

4682. **China Clay** (prepared), National Pottery, Trenton, New Jersey. John Rhodes.

4683. **China Clay** (prepared), Golding & Co., Trenton, New Jersey. John Rhodes.

4684. **White Quartz** (rock flint), mixed with the clays, Nos. 4682 and 4683, in the manufacture of pottery, City Pottery, Trenton, New Jersey. John Rhodes.

4685. **Pulverized Quartz** (see No. 4684), used in the manufacture of pottery, City Pottery, Trenton, New Jersey. John Rhodes.

4686. **Orthoclase Feldspar** (rock spar), mixed with clay in the manufacture of pottery, City Pottery, Trenton, New Jersey. John Rhodes.

4687. **Orthoclase Feldspar** (pulverized), used in the manufacture of pottery (see No. 4686), City Pottery, Trenton, New Jersey. John Rhodes.

4688. **Sagger Clay,** City Pottery, Trenton, New Jersey. John Rhodes.

4689. **Cream Pitcher,** made of New Jersey Clays, Mercer Potteries. John Rhodes.

4690. **Cup and Saucer,** made from New Jersey Clays, Mercer Potteries. John Rhodes.

4691. **Cream Pitcher,** made of New Jersey Clays, City Potteries, Trenton, New Jersey. John Rhodes.

4692. **Saucer,** made from New Jersey Clays, City Potteries, Trenton, New Jersey. John Rhodes.

4693. **Vase**, made from New Jersey Clays, City Potteries, Trenton, New Jersey. John Rhodes.

4694. **Microscope Slide** (Diatoms), from Jutland. C. L. Peticolas.

4695. **Microscope Slide** (Diatoms), from Santa Monica, California (see No. 35, and second report of the State Mineralogist, folio 269). C. L. Peticolas.

4696. **Microscope Slide** (Diatoms), from Richmond, Virginia. C. L. Peticolas.

4697. **Microscope Slide** (Diatoms), from Mediterranean algæ. C. L. Peticolas.

4698. **Microscope Slide** (Diatoms), from Philipville, Algeria. C. L. Peticolas.

4699. **Microscope Slide** (Diatoms), from Black Moss, Aberdeenshire deposit. C. Febiger.

4700. **Microscope Slide** (Diatoms), from Mexico, forty miles south of San Diego (see No. 547). C. Febiger.

4701. **Microscope Slide** (Diatoms), from Pike Pond deposit, New Hampshire. C. Febiger.

4702. **Microscope Slide** (Diatoms), from moraine deposit. C. Febiger.

4703. **Microscope Slide** (Diatoms), from deposit (Keiselghur) used for giant powder, Germany. C. Febiger.

4704. **Microscope Slide** (Diatoms), from Monterey County, California (see No. 830). C. Febiger.

4705. **Microscope Slide** (Diatoms), from Farmington. C. Febiger.

4706. **Microscope Slide** (Diatoms), from Santa Barbara, California (see No. 791). C. Febiger.

4707. **Microscope Slide** (Diatoms), from Barbadoes. C. Febiger.

4708. **Microscope Slide** (Diatoms), from Stavanger deposit, Norway. C. Febiger.

4709. **Microscope Slide** (Diatoms), from sub-peat deposit. C. Febiger.

4710. **Microscope Slide** (Diatoms), from Lunenburg deposit. C. Febiger.

4711. **Microscope Slide** (Diatoms), from San Carlos deposit, California. C. Febiger.

4712. **Microscope Slide** (Diatoms), from Lapland. C. Febiger.

4713. **Microscope Slide** (Diatoms), from Nottingham deposit, north side of the river. C. Febiger.

4714. **Microscope Slide** (Diatoms), from "mountain meal," Shelburn, New Hampshire. C. Febiger.

4715. **Microscope Slide** (Diatoms), from Lost Springs deposit, California (see No. 1246). C. Febiger

4716. **Microscope Slide** (Diatoms), from Sodankala, Finland deposit. C. Febiger.

4717. **Microscope Slide** (Diatoms), from Stony Ford, Antrim County, Ireland. C. Febiger.

4718. **Microscope Slide** (Diatoms), from Ventura County, California (see No. 2444). C. Febiger.

4719. **Microscope Slide** (Diatoms), from Koenigsburg deposit. C. Febiger.

4720. **Microscope Slide**, Glaucophane rock, from near the Wall Street Quicksilver Mine, Lake County, California. Melville Attwood.

4721. **Microscope Slide**, rock section of so called quartzite, from Eureka Consolidated Mine, Eureka, Nevada. Melville Attwood.

4722. **Microscope Slide**, rock section, serpentine, Potrero, San Francisco, California. Melville Attwood.

4723. **Microscope Slide**, rock section, Black Dyke, footwall of Comstock ledge, Gold Hill, Nevada. Melville Attwood.

4724. **Microscope Slide,** rock section, wall rock, Bodie Mines, Mono County, California. Melville Att wood.

4725. **Microscope Slide,** rock section, clay porphyry, Mariposa, California. Melville Attwood.

4726. **Basaltic Column,** Giant's Causeway, Antrim County, Ireland. J. Z. Davis.

4727. **Mountain Leather,** a variety of Amphibole, found eighteen feet below the surface, near Pine Grove, Amador County, California (see No. 4336). J. Cooke.

4728. **Arrow Heads** of Yellow Jasper, Tchefuncta River, Tammany Parish, Louisiana. J. Z. Davis.

4729. **Grotesque Figure** in baked clay, made by the Indians living on the banks of the Gila River, Arizona. Philip I. Figel.

4730. **Cardium corbis,** Post-tertiary Fossil, Soquel, Santa Cruz County, California. J. Z. Davis.

4731. **Concretions of Limonite,** found near Pine Grove, Amador County, California, first thought, by their external appearance, to be Coprolites; No. 4332, which is the same, was so labeled. J. Cooke.

4732. **White Marble,** Glacier Bay, Alaska. Frank Taglibue.

4733. **Indian Implements** of baked clay, found with human bones in an Indian mound five miles from the Dalles, Oregon. D. Morgan White.

4734. **Silver Ore,** Sunrise Mine, Taylor District, White Pine County, Nevada. J. F. Ryan.

4735. **Silver Ore** (contains native silver in Calc Spar and Barite), San Gabriel Cañon Mines, San Bernardino County, California. Charles M. Tyler.

4736. **Rich Silver Ore,** King Mine, Calico District, San Bernardino County, California. Charles M. Tyler.

4737. **Rich Silver Ore,** Geneva Mine, Calico District, San Bernardino County, California. Charles M. Tyler.

4738. **Silver Ore,** Oriental group of mines, Calico District, San Bernardino County, California. Charles M. Tyler.

4739. **Silver Ore,** Burning Moscow Mine, Calico District, San Bernardino County, California. Charles M. Tyler.

4740. **Silver Ore,** Occidental Mine, Calico District, San Bernardino County, California. Charles M. Tyler.

4741. **Stalactites,** from a cave near the Silver King Mine, Pinal County, Arizona. A. J. Holmes.

4742. **Fossil Leaves,** Coal Mines, Carbon Hill, Washington Territory. D. Morgan White.

4743. **Silver Ore,** Run Over Mine, Calico District, San Bernardino County, California. W. H. Raymond.

4744. **Quartz,** with Gold (electrum), Bodie Mine, Mono County, California; very rich—examine carefully. J. M. Classen.

4745. **Silver Ore,** Bonanza King Mine, Slate Range, Inyo County, California.

4746. **Azurite,** Malachite and Cuprite, Kerrick Mine, Benton, Blind Springs, Mono County, California. J. M. Classen.

4747. **Chromic Iron,** eighteen miles east of Crescent City, Del Norte County, California. Isaac Bluxome.

4748. **Silver Ore,** Northern Belle Mine, Esmeralda County, Nevada. J. M. Classen.

4749. **Variegated Obsidian,** east of Mono Lake, and three miles inside the State of Nevada, Esmeralda County. J. M. Graham.

4750. **Volcanic Tufa** (so called White Lava), a similar rock is used in Europe in building ovens for bread baking (see No. 4751), found near Etna Springs, Napa County, California. C. Hartson.

4751. **Volcanic Tufa,** used in Europe in building bake ovens. It has the property of retaining the heat imparted to it by the fuel (see No. 4750). River Rhine, Germany.

4752. **Native Copper,** five miles west of San Luis Obispo, California. Theodore G. Bilty.

4753. **Nickel Ore,** said to be found in San Benito County. D. Morgan White.

4754. **Croppings,** Manzanita Gold Mine, Sulphur Creek, Colusa County, California (see No. 2868). Chas. M. Tyler.

4755. **Bituminous Shale,** or Impure Lignite, near Mount Diablo, Contra Costa County, California. Volatile matter, including water, 24.4; fixed carbon, 17.6; ash, 58.0; total, 100. H. E. Osborn.

4756. **Slag** from cupola copper smelting furnace, Pelton, Pima County, Arizona. H. M. Howe.

4757. **Copper Matte,** with metallic copper. James C. Weir.

4758. **Aragonite,** ranch of J. M. Pugh, near Smithville, Colusa County, California. W. H. Wilson.

4759. **Rich Ores,** Partzite, native silver, galena, etc., Tower Mine, near Benton, Mono County, California. J. M. Classen.

4760. **Grotesque Figure in Lead,** dug up at Olanche, Inyo County, California, without doubt the handiwork of some modern lead smelter. Hon. J. M. Keeler.

4761. **Coal** from the Sproul vein (four feet six inches thick), Carbon River, Washington Territory (see No. 1953). D. Morgan White.

4762. **Coal,** Pacific Cumberland vein, Carbon River, Washington Territory. D. Morgan White.

4763. **Coal,** Henry vein (thirteen feet thick), Carbon River, Washington Territory. D. Morgan White.

4764. **Mica** (Muscovite?), Tombstone District, Pima County, Arizona. E. Hain.

4765. **Selenite** (Gypsum), near Gilroy, Santa Clara County, California.

4766. **Silver Ore,** Lancashire Mine, Garfield District, Esmeralda County, Nevada. Farrington and Moss.

4767. **Silver Ore,** Bolton Mine, Garfield District, Esmeralda County, Nevada. Farrington and Moss.

4768. **Silver Ore,** Atherton Mine, Garfield District, Esmeralda County, Nevada. Farrington and Moss.

4769. **Silver Ore,** Manchester Mine, Garfield District, Esmeralda County, Nevada. Farrington and Moss.

4770. **Scotch Flag Stone,** imported into the State, in which there is plenty of equal quality that should be used.

4771. **Copper Ore,** Illinois Mine, Santa Fe District, Esmeralda County, Nevada, taken from a depth of fifty feet. S. E. Holcombe.

4772. **Copper Ore,** Chrysocolla, Illinois Mine, Santa Fe District, Esmeralda County, Nevada. S. E. Holcombe.

4773. **Copper Ore,** containing Cuprite, Illinois Mine, Santa Fe District, Esmeralda County, Nevada. S. E. Holcombe.

4774. **Copper Ore,** Jersey Blue Mine, Santa Fe District, Esmeralda County, Nevada. S E. Holcombe.

4775. **Copper Ore,** Royal Mine, Santa Fe District, Esmeralda County, Nevada. S. E. Holcombe.

4776. **Copper Ore,** Blue Light Mine, Santa Fe District, Esmeralda County, Nevada. S. E. Holcombe.

4777. **Wall Rock,** Foot Wall, Illinois Mine, Santa Fe District, Esmeralda County, Nevada (see No. 4771). S. E. Holcombe.

4778. **Copper Ore,** Sweet Vengeance Mine, Santa Fe District, Esmeralda County, Nevada. S. E. Holcombe.

4779. **Copper Ore,** Providence Mine, Santa Fe District, Esmeralda County, Nevada. S. E. Holcombe.

4780. **Copper Ore,** Emma Mine, Santa Fe District, Esmeralda County, Nevada. S. E. Holcombe.

4781. **Silver Copper Ore,** New Year Mine, Santa Fe District, Esmeralda County, Nevada. S. E. Holcombe.

4782. **Silver Ore,** Latta Mine, Garfield District, Esmeralda County, Nevada. A. M. Cole.

4783. **Silver Ore,** Yellow Jacket Mine, Garfield District, Esmeralda County, Nevada. A. M. Cole.

4784. **Silver Ore,** Red Jacket Mine, Garfield District, Esmeralda County, Nevada. A. M. Cole.

4785. **Chalcedonic Concretions,** Belmont, Nye County, Nevada. Geo. W. Emerson.

4786. **Great Seal of the State of California** (in gold). Exhibited at the Paris Exposition of 1878.

4787. **Great Seal of the State of Nevada** (in silver). Exhibited at the Paris Exposition of 1878.

4788. **Phrynosoma regale,** Horned Toad, Arizona. Mrs. J. S. White.

4789. **Lycosa** Sp. (?), California Tarantula.

4790. **Stalagmite,** found isolated at the foot of a tree near Crescent City, Del Norte County, California. W. B. Mason.

4791. **Stalactites,** from Crystal Cave, Cave City, Calaveras County, California. (See No. 133.)

4792. **Stalagmite,** Cave of the Catacombs, near Cave City, Calaveras County, California, rediscovered July 1, 1831. In this cave there were found great quantities of human bones, of which there is no history, and from which the cave was named. George Nichols.

4793. **Curious Knot of Wood,** locality unknown. J. Z. Davis.

4794. **Rock Soap**, San Benito County, California. R. P. Thomas.

4795. **Priceite**, Borate of Lime (see No. 157), Curry County, Oregon. J. Cresswell.

4796. **Pulverized Borax**, refined, the production of the San Bernardino Borax Mining Company.

Analysis by Edward Booth: Biborate of sodium, 52.68; water, 46.25; total, 98.93.

4797. **Auris midæ**, recent shell. J. Z. Davis.

4798. **Garden Vase**, made of California clay (Nos. 1944 and 1945), Lincoln Pottery, Placer County, California. Gladding, McBean & Co.

4799. **Gold in Quartz**, very rich, Agua Conita, Tolima, United States of Colombia. C. Faulhaber.

4800. **Galena**, Plomosa Mine, Tolima, United States of Colombia. C. Faulhaber.

4801. **Lava** (four specimens), from the immense beds ejected by the volcano of El Ruiz, Tolima, United States of Colombia. C. Faulhaber.

4802. **Quartz** (bloodstone), in gravel near Windsor, Sonoma County, California. George Balser.

4803. **Clay**, six-foot stratum, forty feet deep, Clipper Coal Mines, near Lincoln, Placer County, California (see Nos. 979 to 987). John Landis.

4804. **White Sand**, thirty-two feet from the surface, near Lincoln, Placer County, California, in its natural state (see No. 979). John Landis.

4805. **White Sand**, thirty-two feet from the surface, near Lincoln, Placer County, California. The same as No. 4804, but washed. John Landis.

4806. **Clay**, found below the coal beds, seventy-five feet below the surface, Clipper Coal Mines, near Lincoln, Placer County, California. John Landis.

4807. **Washed Clay**, from the sand stratum, thirty feet below the surface, Clipper Coal Mines, near Lincoln, Placer County, California. John Landis.

4808. **Ionite,** Clipper Coal Mines, near Lincoln, Placer County, California (see No. 982). John Landis.

4809. **Lignite,** Clipper Coal Mines, near Lincoln, Placer County, California. John Landis.

This material has not yet received the study it deserves. It very much resembles Ionite which has been analyzed, and, while it has the appearance of being a very inferior lignite, it serves many useful purposes as a fuel, and is consumed in large quantities in the neighborhood.

4810. **Water,** from Owens' great lake, Inyo County, California. S. D. Woodhull.

4811. **Chalcedony,** upon the surface of which are stellar aggregations of the binoxide of manganese (?) (see No. 2107), Aurora, Esmeralda County, Nevada. F. W. Smith.

4812. **Red Brecciated Jasper,** near Aurora, Esmeralda County, Nevada. F. W. Smith.

4813. **Model** of a Gold Bar, the result of one run made in the North Bloomfield Hydraulic Mine, Nevada County, California; weight, 6,127.78 ounces troy; gold, fine, 897; silver, fine, 93; total value, $114,280 72. This is probably the largest gold bar ever cast in the State. Presented by Henry C. Perkins.

4814. **Eulima subulata** (Desh.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4815. **Cancellaria umbilicaris** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4816. **Venus scalaris** (Bronn.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4817. **Murex tapparonii** (Bele.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4818. **Donax minuta** (Bronn.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4819. **Solecurtus coarctatus,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4820. **Triton distortus** (Brocch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4821. **Arca noe** (Linn.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4822. **Terebratula grandis** (Blum), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4823. **Corbula gibra** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4824. **Phorus crispus** (Kon.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4825. **Solarium simplex** (Bronn.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4826. **Columbella erithrostema** (?), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4827. **Trochus patulus** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4828. **Niso terebellum**, Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4829. **Drillia brocchii**, Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4830. **Fusus rostratus**, Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4831. **Fasciolaria fimbriata** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4832. **Fusus clavatus** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4833. **Murex scalaris** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4834. **Mitra striatula** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4835. **Cancellaria mitræformis** (Broch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4836. **Cardium papillosium** (Poli.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4837. **Murex polymorphus** (Brocchi), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4838. **Venus gallina** (Linn.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4839. **Pollia plicata,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4840. **Fossarus costatum** (Phil.), Upper Pliocene Fos sill, Hills of Asti, Alessandria, Northern Italy.

4841. **Venus radiata** (Brocch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4842. **Cancellaria cassidea** (Brocch.), Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4843. **Tournatella semistriata,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4844. **Vermetus glomeratus,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4845. **Petricola fragilis,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4846. **Psammodia uniradiata,** Upper Pliocene Fossil, Hills of Asti, Northern Italy.

4847. **Conus striatulus** (Brocch.), Upper Pliocene Fossil, Hills of Asti, Northern Italy.

4848. **Triton doderleini,** Upper Pliocene Fossil, Hills of Asti, Northern Italy.

4849. **Triton mithiloides** (Brocch.) Upper Pliocene Fossil, Hills of Asti, Northern Italy.

4850. **Euthria cornea,** Upper Pliocene Fossil, Hills of Asti, Northern Italy.

4851. **Arca ambiguata,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4852. **Lyre Bird,** Menura superba (Davies). J. Z. Davis.

. **Free Gold in Quartz,** Gold Quartz Mining Company, Nevada City, Nevada County, California. E. P. Heald.

. **Sand,** Cedar Key, Florida. J. Z. Davis.

. **Red Earth,** Granite Hill, Richmond, Virginia. J. Z. Davis.

. **Sand,** St. John's River, near Jacksonville, Florida. J. Z. Davis.

. **Beach Sand,** east shore of Lake Ponchartrain, Louisiana. J. Z. Davis.

. **Batture,** or earth from the Jetties, mouth of the Mississippi River, Louisiana. J. Z. Davis.

. **Sand,** West shore of Lake Ponchartrain, Louisiana. J. Z. Davis.

. **Sand,** Louisiana. J. Z. Davis.

. **Sand,** St. John's River, Pilatka, Florida. J. Z. Davis.

. **Sand,** Thunderbolt River, six miles from Savannah, Georgia. J. Z. Davis.

. **Sand,** Beach of James River, Richmond, Virginia. J. Z. Davis.

. **Sand,** Santa Monica, Los Angeles County, California. J. Z. Davis.

. **Red Sand,** line of the Southern Pacific Railroad, near Rock Creek. J. Z. Davis.

. **Sand,** near Pilot Knob, Colorado. J. Z. Davis.

. **Sand,** Bay of Naples, Italy. J. Z. Davis.

. **Sand,** Seven Palms, 108 miles from Los Angeles, California. J. Z. Davis.

. **Sand,** beach below St. Augustine, Florida. J. Z. Davis.

. **Sand,** with shells, Colorado Desert, San Diego County, California. J. Z. Davis.

4871. **Sand,** Lisbon, Portugal. J. Z. Davis.

4872. **Sand,** Rio de la Plata, near Buenos Ayres, Argentine Republic. J. Z. Davis.

4873. **Sand,** with shells, Mersey River, below Liverpool, England. J. Z. Davis.

4874. **Sand,** Sediment of the Mississippi River, 105 miles above the mouth, Louisiana. J. Z. Davis.

4875. **Sand,** Revere Beach, Boston Harbor, Massachusetts. J. Z. Davis.

4876. **Sand,** Staten Island, New York Bay. J. Z. Davis.

4877. **Sand,** Martha's Vineyard, Massachusetts. J. Z. Davis.

4878. **Sand,** South Beach, Nantucket, Massachusetts. J. Z. Davis.

4879. **Sand,** Back Avenue Beach, Newport, Rhode Island. J. Z. Davis.

4880. **Sand,** South Shore, Saratoga Lake, New York. J. Z. Davis.

4881. **Sand,** Colorado Desert. J. Z. Davis.

4882. **Lava,** in which an Italian coin is imbedded, Vesuvius, Italy. John S. Hittell.

4883. **Hard Travertine,** deposited by a mineral spring and used for building in Rome and other Italian cities. The colisseum, the front of St. Peter's, and many of the ancient and modern buildings are built of it. The quarries are at Tivoli, near Rome, Italy. John S. Hittell.

4884. **Volcanic Tufa,** or Pozzuolana, used in the manufacture of cement and in building at Rome, Italy. John S. Hittell.

4885. **Red Porphyry,** Rome, Italy. John S. Hittell.

4886. **Green Porphyry,** Rome, Italy. John S. Hittell.

4887. **Limonite,** after Pyrite, Red Hill, Butte County, California. A. B. Paul.

4888. **Murex endivia,** Recent Shell, Japanese waters.

4889. **Cannel Coal,** Siberian shore of Behrings Straits, used by the natives for ornamental purposes, probably water-worn fragments from the beach. George Balser.

4890. **Copper,** Crude, product of Soda Spring Smelting Furnace, Esmeralda County, Nevada. J. H. Crossman.

4891. **Fossiliferous Limestone,** Siberian Coast of the Arctic Ocean. Geo. Balser.

4892. **Zircon Sand,** Hydraulic Mine, Irish Hill, three miles north of Ione, Amador County, California. J. W. Loomis.

4893. **Volcanic Ash** (?), Ione Valley, Amador County, California. J. W. Loomis.

4894. **White Marble,** nine miles north of Ione, Amador County, California. J. W. Loomis.

4895. **Pyrite,** Yellow Jacket Mine, Esmeralda County, Nevada. C. Ogg.

4896. **Durangite,** a very rare mineral found in lodes of tin in the tin mines of Coneto, Durango, Mexico. J. Z. Davis.

4897. **Anthracite** (?) **Coal,** Queen Charlotte's Island, British Columbia. M. Toomey.

4898. **Copper Ore,** near Ravenna, Los Angeles County, California. C. F. Allen.

4899. **Copper Ore,** Ingomar Mine, near Luning, Esmeralda County, Nevada. J. H. Crossman.

4900. **Pyrolusite,** Alameda County, California. Rev. Mr. Briggs.

4901. **Chalcedonic Quartz,** Dry Creek, six miles northeast of Ione City, Amador County, California. J. W. Loomis.

4902. **Talc,** near San Quentin Bay, Lower California, Mexico. A. Morales.

4903. **Chromic Iron,** near Livermore, Alameda County, California. G. W. Martin.

4904. **Stibnite,** Sulphide of Antimony, Panamint Valley, Inyo County, California. George K. Philips.

This deposit has long been known and may be found located on Atlas Sheet No. 65 D., Wheeler's geographical surveys and explorations west of the one hundredth meridian.

4905. **Pyrite,** Clipper Coal Mine, Lincoln, Placer County, California. John Landis.

4906. **Pebbles,** found beneath the coal, Clipper Coal Mine, Lincoln, Placer County, California. John Landis.

4907. **Bog Iron Ore,** found five miles from Alameda, Alameda County, California. Dr. S. G. George.

4908. **Obsidian,** variegated, near McBride's Ranch, Mono County, California. J. M. Graham.

4909. **Pecten,** Fossil, Sandstone Bluff, Township 1 north, and on the Humboldt meridian, Humboldt County, California. J. M. Graham.

4910. **Shell Rock,** Sandstone Bluff, Township 1 north, and on the Humboldt meridian, Humboldt County, California. J. M. Graham.

4911. **Jeffriesite,** Tulare County, California. W. H. Randall.

4912. **Silver Ore,** very rich, showing Cerargyrite, Queen Mine, Calico Mining District, San Bernardino County, California. John Daggett.

4913. **Kaolin,** pure, prepared, Worcester Royal Porcelain Works, England.

4914. **Pure Porcelain Clay,** baked, Worcester Royal Porcelain Works, England.

4915. **Fire Clay,** Worcester Royal Porcelain Works, England.

4916. **Clay,** from Nevada City.

(Nos. 4220 and 4421), baked in a common sewer pipe kiln by Gladding & McBean, who say if it was properly washed and otherwise prepared, it would be equal to the best kaolin.

4917. **Fossil Horse Bones,** Desert east of Silver Lake, Lake County, Oregon. John Daggett.

4918. **Necklace,** a plant which grows on Pitcairn's Island, and worn as an ornament by the women on that island. John Daggett.

4919. **Tapa,** the native cloth of the South Sea Islanders, in five stages of manufacture. John Daggett.

4920. **Wood,** from which Tapa (No. 4919) is made, South Sea Islands. John Daggett.

4921. **Water,** from Goose Lake, Modoc County, California. F. H. Merrill.

4922. **Gold Quartz,** Gagnere Mine, Section 32, Township 2 north, Range 14 east, in the town of Tuttletown, Tuolumne County, California. George R. Wilson.

4923. **Trochus magnus,** Upper Pliocene Fossil, Hills of Asti, Alessandria, Northern Italy.

4924. **Silver Ore,** Mina de Frias, State of Tolima, United States of Colombia. Carlos Faulhaber.

This is an old Spanish mine reopened in the year 1882. It has given large returns to the owner, but belongs now to an English company. The ore body on the 500-foot level is eighteen feet across. The ore is crushed at the mine and sent to England for reduction.

4925. **Silver Ore,** Mina la Pava, State of Cauca, United States of Colombia. Carlos Faulhaber.

This mine was started fourteen years ago. It is not worked with any system, but has yielded a great deal of silver. The reduction is by barrel amalgamation.

4926. **Silver Ore,** Mina la Soledad, State of Antioquia, U. S. of Colombia. Carlos Faulhaber.

This is a new mine, ore vein three to four feet broad, and but little work being done on it.

4927. **Silver Ore,** Mina Guadalejo, State of Cauca, U. S. of Colombia. Carlos Faulhaber.

This is a very large mine, is well opened, and is beginning to pay well.

4928. **Melania tetrica** (Gould), recent shell, Viti Island, South Pacific. Thomas Griffin.

4929. **Crystallized Cinnabar,** in crystallized Calcite, Guadalupe Mine, Santa Clara County, California. Henry May.

4930. **Calcite,** Iceland Spar, Pioche, Lincoln County, Nevada. Mrs. H. H. Day.

4931. **Free Gold in Quartz,** Hoover Hill Gold Mining Company, Thompsonville, Davidson County, North Carolina. J. Z. Davis.

4932. **Conglomerate,** Pioneer District, Gila District, Arizona. Charles H. Comstock.

4933. **Pebbles,** from the Harbor of Lubec, Baltic Sea, Germany. James Behrens.

4934. **Anglesite,** Sulphate of Lead, Sierra Madre, Durango, Mexico. H. H. Ward.

4935. **Cinnabar,** Santiago, Durango, Mexico. H. H. Ward.

4936. **Tin Ore,** Cassiterite, Cacario, Durango, Mexico. H. H. Ward.

Said to be found in large quantities. Altitude of the mines, 12,000 feet.

4937. **Rich Silver Ore,** American Flag Mine, Socorro County, New Mexico. Frank Drake.

4938. **Rich Silver Ore,** Ivanhoe Mine, Grafton, Socorro County, New Mexico. Frank Drake.

4939. **Copper Ore,** high grade, Silicate and Oxide, Chrysocolla and Cuprite, Black Knife Mine, Socorro County, New Mexico. Frank Drake.

This specimen and the six that follow are a series illustrative of the operation of smelting by the Water Jacket Furnace.

4940. **Copper Ore,** low grade, yielding from three to five per cent of copper, but which can be smelted with a small profit (see No. 4939). Frank Drake.

4941. **Iron Ore,** used as a flux in copper smelting (see No. 4939). Frank Drake.

4942. **Calcite,** used as a flux in copper smelting (see No. 4939). Frank Drake.

4943. **Copper Ore,** partly smelted, work of Water Jacket Furnace (see No. 4939). Frank Drake.

4944. **Slag,** formed in copper smelting with Water Jacket Furnace (see No. 4939). Frank Drake.

4945. **Copper Bullion,** containing 381 ounces of silver to the ton, obtained in Water Jacket Furnace (see No. 4939). Frank Drake.

4946. **Rock Specimens,** twenty varieties, Sierra Madre, Durango, Mexico. Thomas Gilmore.

4947. **Rich Silver Ore** (Embolite), Plutarch Mine, Calico District, San Bernardino County, California. John Daggett.

4948. **Rich Silver Ore,** coated with Embolite, Garfield Mine, Calico District, San Bernardino County, California. John Daggett.

4949. **Silver Ore,** Occidental Mine, Calico Mining District, San Bernardino County, California. S. Heydenfeldt, Jr.

4950. **Silver Ore,** Golconda Mine, Calico District, San Bernardino County, California. Mrs. Townsend.

4951. **Stone Implement,** supposed to have been used by the Indians in grinding and preparing paint. Found in a cave 150 feet deep, Calico Mining District, San Bernardino County, California. Jas. Gould.

4952. **Silver Ore,** Veto Mine, Calico Mining District, San Bernardino County, California. Charles Kaufman.

4953. **Barite,** Sulphate of Baryta, Calico Mining District, San Bernardino County, California. S. Heydenfeldt, Jr.

4954. **Selenite,** Gypsum, Calico District, San Bernardino County, California. S. Heydenfeldt, Jr.

4955. **Ulexite,** Borate of Lime, Fish Lake Valley, Esmeralda County, Nevada. W. D. Linton.

4956. **Ulexite,** variety technically called "Sheet Cotton," containing free boracic acid, Death Valley, Inyo County, California. J. Daunet.

4957. **Borax,** made from Ulexite (borate of lime), decomposed with carbonate of soda. J. Daunet.

4958. **Fossiliferous Rock,** near Soledad, San Diego County, California. W. C. MacDougal.

4959. **Slate,** near Red Hill, Butte County, California.

4960. **Picrolite,** near Red Hill, Butte County, California.

4961. **Rock Specimen** (undetermined), Red Hill, Butte County, California.

4962. **Rock Specimen** (undetermined), Red Hill, Butte County, California.

4963. **Rock Specimen** (undetermined), Red Hill, Butte County, California.

4964. **Rich Silver Ore,** large specimen, Gobbler Mine, Calico Mining District, San Bernardino County, California. John Daggett.

4965. **Pyrolusite,** Binoxide of Manganese, Hahn's Ranch, twelve miles south of the Guadalupe Quicksilver Mine, Santa Clara County, California. E. C. Hahn.

4966. **Limonite,** Iron Ore, Hahn's Ranch, twelve miles south of the Guadalupe Quicksilver Mine, Santa Clara County, California.. E. C. Hahn.

4967. **Iron Ore,** Illinois. J. Z. Davis.

4968. **Native Sulphur,** Murdock's Sulphur deposit, Esmeralda County, Nevada. H. S. Durden.

4969. **Ore,** said to be rich in silver, Grigsby Mine, Calistoga, Napa County, California. R. F. Grigsby.

4970. **Nitrate of Soda,** Cave in Calico District, San Bernardino County, California. W. B. Murdock.

4971. **Scoriaceous Lava,** Basalt, Teel's Marsh, Esmeralda County, Nevada. J. H. Crossman.

4972. **Lava and Pumice,** Alviso, Santa Clara County, California. Edward A. T. Gallagher.

The Guadalupe River winds through a chain of volcanic vents. They rise but a few feet above the valley.

4973. **Azurite,** Blue Carbonate of Copper, near Teel's Marsh, Esmeralda County, Nevada.

4974. **Models** (two specimens) of pierced and engraved Reindeer Horns, originals found in a cave in Perigord, Dordogne, France.

Described in "Primitive Man," by Louis Figuier, folio 73, and figured folio 102 of same work. Supposed to have been staves of authority.

4975. **Model** of a dagger of Reindeer Horn, the hilt carved like a reindeer, original found in a cave in Perigord, Dordogne, France.

4976. **Model** of a figure carved in Reindeer Horn, original found in a cave in Perigord, Dordogne, France.

4977. **Model** of a figure carved in Reindeer Horn, original found in a cave in Perigord, Dordogne, France.

4978. **Model** of a figure carved on Reindeer Horn, original found in a cave in Perigord, Dordogne, France.

4979. **Model** of a figure carved on Reindeer Horn, original found in a cave in Perigord, Dordogne, France.

4980. **Model** of a figure carved on Reindeer Horn, original found in a cave in Perigord, Dordogne, France.

4981. **Model** of a figure carved on Reindeer Horn, original found in a cave in Perigord, Dordogne, France.

4982. **Model** of a figure carved on Reindeer Horn, original found in a cave in Perigord, Dordogne, France.

4983. **Model** of a dagger or bodkin, original found in a cave in Perigord, Dordogne, France.

4984. **Arseniate of Nickel** (?), Humboldt Mountains and District, north of Winnemucca, Humboldt County, Nevada.

4985. **Cuproscheelite**, Tungstate of Lime and Copper, Lower California, Mexico.

4986. **Sand**, from a well in the Colorado Desert, San Diego County, California. J. Z. Davis.

4987. **Iron Ore**, Hematite, Jackson, Amador County, California. Isaac Bluxome.

4988. **Whalebone** from the Balæna mysticetus, Bowhead or great Polar Whale, known by the name of "baleen" among whalers.

For description see "Marine Mammals of Northwest Coast of America," by Captain C. M. Scammon; published by John H. Carmany, San Francisco.

4989. **Ammonite,** Fossils, Santa Fe District, Esmeralda County, Nevada. J. H. Crossman.

4990. **Fossil Shells** (undetermined), Santa Fe District, Esmeralda County, Nevada. J. H. Crossman.

4991. **Fossil Shell,** Anodonta (?), roof of Centennial Coal Mine, Contra Costa County, California. E. W. Martin.

4992. **Tourmaline** (?), Santa Fe District, Esmeralda County, Nevada. J. H. Crossman.

4993. **Borax,** Crystal, San Bernardino County, California. E. M. Skillings.

This is probably the finest crystal of borax that has ever been found in the State. It differs from those found at Borax Lake, Lake County, in being free from the inclosed mud which renders them opaque.

4994. **Copper Ore,** Red Oxide, Sweet Vengeance Mine, Santa Fe Mining District, Esmeralda County, Nevada. J. H. Crossman.

4995. **Copper Ore,** Johnson Mine, near Luning, Esmeralda County, Nevada. J. H. Crossman.

4996. **Wall Rock,** Sweet Vengeance Mine, Santa Fe Mining District, Esmeralda County, Nevada (see No. 4993). J. H. Crossman.

4997. **Wall Rock,** Sweet Vengeance Mine, Santa Fe Mining District, Esmeralda County, Nevada. J. H. Crossman.

4998. **Travertine,** Major's Creek, Santa Cruz County, California. Mrs. J. G. Tanner.

4999. **Alum** (see No. 2739), Teel's Marsh, Esmeralda County, Nevada. Smith Brothers.

5000. **Copper Ore,** Italy Mine, near Luning, Esmeralda County, Nevada. J. H. Crossman.

5001. **Copper Ore,** Sonora Mine, near Luning, Esmeralda County, Nevada. J. H. Crossman.

5002. **Copper Ore,** Copper King Mine, near Luning, Esmeralda County, Nevada. J. H. Crossman.

5003. **Wall Rock,** hanging wall, limestone, Copper King Mine, near Luning, Esmeralda County, Nevada. J. H. Crossman.

5004. **Wall Rock,** foot wall, talcose slate, Copper King Mine, near Luning, Esmeralda County, Nevada. J. H. Crossman.

5005. **Fossil Bone of Mammoth,** Femur, near Golofnin Bay, north of Norton Sound, Alaska. J. C. Green.

5006. **Fossil Tusk of Elephant,** near Golofnin Bay, north of Norton Sound, Alaska. J. C. Green.

5007. **Tooth of Elephas primigenius,** near Golofnin Bay, north of Norton Sound, Alaska. J. C. Green.

5008. **Calcite,** compact botryoidal, found with Priceite, Chetco, Curry County, Oregon. John Cresswell.

5009. **Calcite,** bed of the Klamath River, Yreka, Siskiyou County, California. Dr. F. G. Hearn.

5010. **Dolomite,** Raymond and Ely Mine, Lincoln County, Nevada, 700-foot level. Mrs. H. H. Day.

5011. **Dolomite,** botryoidal, on Copper Ore, Raymond and Ely Mine, Lincoln County, Nevada. Mrs. H. H. Day.

5012. **Large Specimen,** containing Fossil Oysters, Posa Creek, foothills of the Sierra Nevada, Kern County, California. E. Donnelly, M.D.

5013. **Fossil Wood,** Posa Creek, foothills of the Sierra Nevada, Kern County, California. E. Donnelly, M.D.

5014. **Fossil vertebræ,** Posa Creek, foothills of the Sierra Nevada, Kern County, California. E. Donnelly, M.D.

5015. **Indian Pestle,** Cholame, San Luis Obispo County, California. D. Russell.

5016. **Fossil Oysters,** Cholame, San Luis Obispo County, California. D. Russell.

5017. **Chalcedonic concretion** (Geode), Palisade, Eureka County, Nevada. Ed. Kennedy.

5018. **Gypsum,** Posa Creek, foothills of the Sierra Nevada, Kern County, California. E. Donnelly, M.D.

5019. **Limestone** (water-worn bowlder), Posa Creek, foothills of the Sierra Nevada, Kern County, California. E. Donnelly, M.D.

5020. **Copper Ore** (rich), Comet Mine, Beaver County, Utah. Mrs. H. H. Day.

5021. **Galena,** Raymond and Ely Mine, Black Lode, 1,200-foot level, Lincoln County, Nevada. Mrs. H. H. Day.

5022. **Silver Lead Ore,** Raymond and Ely Mine, Lincoln County, Nevada. Mrs. H. H. Day.

5023. **Copper Ore,** Copperopolis Mine, Tintic, Utah. Mrs. H. H. Day.

5024. **Root of Buckeye,** bearing a resemblance to human form, El Dorado County, California. W. Hulford.

5025. **Silver Ore** (Breccia, coated with Embolite), Alhambra Mine, Calico Mining District, San Bernardino County, California. Hon. John Daggett.

5026. **Chrysocolla** (Silicate of Copper), Copper World Mine, Clark's Mining District, San Bernardino County, California. Lowry Silver.

5027. **Rock with Barite,** Copper World Mine, Clark's Mining District, San Bernardino County, California. Lowry Silver.

5028. **Copper Ore,** Copper World Mine, Clark's Mining District, San Bernardino County, California. Lowry Silver.

5029. **Alabaster,** Gypsum, Colima, Mexico, a beautiful ornamental stone. Williams & Blanchard.

Alabaster (in which sulphur is imbedded), Colima, Mexico. Williams & Blanchard.

Auriferous Quartz, Gold Mountain Mine, near Jamestown, Tuolumne County, California. L. de Begon.

Auriferous Quartz, Gold Mountain Mine, 400-foot level, near Jamestown, Tuolumne County, California. L. de Begon.

Auriferous Quartz, Gold Mountain Mine, 600-foot level, near Jamestown, Tuolumne County, California. L. de Begon.

Auriferous Quartz, Gold Mountain Mine, 850-foot level, near Jamestown, Tuolumne County, California. L. de Begon.

Wall Rock (foot wall), Gold Mountain Mine, near Jamestown, Tuolumne County, California. L. de Begon.

Wall Rock (hanging wall), Gold Mountain Mine, near Jamestown, Tuolumne County, California. L. de Begon.

Gold Quartz, Hidden Treasure Mine, near Murphy's, Calaveras County, California.

Copper Ore (Red Ore), Illinois Mine, near Luning, Esmeralda County, Nevada. J. H. Crossman.

Copper Ore (Jumbo Ore), Black Oxide, Sweet Vengeance Mine, Santa Fe District, Esmeralda County, Nevada. J. H. Crossman.

Copper Ore (Jumbo Ore, Green Carbonate Ore), Sweet Vengeance Mine, Santa Fe District, Esmeralda County, Nevada. J. H. Crossman.

Limestone (foot-wall), Illinois Mine, near Luning, Esmeralda County, Nevada. J. H. Crossman.

Wall Rock (hanging wall), Illinois Mine, near Luning, Esmeralda County, Nevada. J. H. Crossman.

Red Jasper (creek bed), near Windsor, Sonoma County, California. George Balser.

5044. **Massive Quartz,** Douglas County, Oregon. J. W. Cain.

5045. **Brown Lignite** (5-foot vein), Temescal Mountains, 25 miles southwesterly of Colton, San Bernardino County, California, owned by McIntosh & Chaney. Presented by Wm. H. Mintzer.

Fixed carbon, 27.74; combustible matter, 32.26; water, 20.00; ash, 20.00—100.

5046. **Gypsum** (Selenite), Silver Peak, Esmeralda County, Nevada. W. H. Stanley.

5047. **Gold Quartz,** Dover Mine, Humbug Cañon, Placer County, California.

5048. **Silver Ore,** Southern Nevada Mine, Belleville, Esmeralda County, Nevada.

5049. **Silver Ore,** Lizzie Mine, west drift, Ivanpah, San Bernardino County, California. Captain R. Battersby.

5050. **Chromic Iron,** found within two or three miles of Nevada City, Nevada County, California. Josiah H. Richards.

5051. **Dolomite,** Inyo County, California. W. H. Holt.

5052. **Gold Ore,** Monticello Mine, Sulphur Creek, Colusa County, California. William Cherry.

5053. **Pyrolusite** (impure), three miles from Railroad Flat, Calaveras County, California. M. H. Peck.

5054. **Ore Containing Free Gold,** Manzanita Mine, Sulphur Creek, Colusa County, California. Dr. C. B. Hughes.

5055. **Ore,** from the Silver Lead Mine, Hornitos, Mariposa County, California. A. B. Rowley.

5056. **Gold Sulphuret Ore,** Mountain Mine, Nevada City, Nevada County, California.

5057. **Silver Ore,** Golden Crown Mine, Prescott District, Bloody Cañon, Mono County, California. Formerly known as the "Antimony Mine."

5058. **Liquid Asphaltum**, from a natural well, said to be 100 feet deep, from which it overflows and becomes solid asphaltum, Steele's Ranch, San Luis Obispo County, California.

5059. **Solid Asphaltum**, from a natural well, Steele's Ranch, San Luis Obispo County, California (see No. 5058).

5060. **Auriferous Quartz**, Idaho Mine, Grass Valley, Nevada County, California, ordinary ore (see No. 1399).

5061. **Cement with Gold**, Godfrey Gravel Mine, Grass Valley, Nevada County, California. W. C. Stokes.

5062. **Silver Ore**, Mammoth Mine, Lake District, Mono County, California.

5063. **Silver Ore with Enargite**, Tarshish Mine, Monitor District, Alpine County, California. George F. Beardsley.

5064. **Silver Gold Ore**, Valentine Mine, Old Coso, Inyo County, California.

5065. **Silver Ore**, Advance Mine, Monitor District, Alpine County, California. George F. Beardsley.

5066. **Gold Quartz**, Oakland Mine, Grass Valley, Nevada County, California. Oakland Gold Mining Company.

5067. **Gold Quartz**, Padre Mine, Carga Muchacho District, San Diego County, California. Scupham & Childs.

5068. **Gold Quartz**, Madre Mine, Carga Muchacho District, San Diego County, California. Scupham & Childs.

5069. **Cement with Gold**, Nice and West Mine, Nevada County, California.

5070. **Gold Quartz**, Akin or Virginia Mine, near Coulterville, Mariposa County, California.

5071. **Ore Containing Free Gold**, Jumper Mine, Hayden Hill, Lassen County, California. Hon. John Daggett.

5072. **Gold Quartz,** Poule Mine, Clipper Gap, Placer County, California. Henry C. Hyde.

5073. **Silver Gold Ore,** Julia Mine, Lake District, Mono County, California.

5074. **Pyrolusite,** Stonewall Mine, Tombstone District, Cochise County, Arizona, said to be argentiferous. J. G. Manning.

5075. **Silver Ore,** Ingersoll Consolidated Mine, Tombstone District, Cochise County, Arizona. J. G. Manning.

5076. **Silver Ore,** Phœnix Mine, Tombstone District, Cochise County, Arizona. J. G. Manning.

5077. **Silver Ore,** Way Up Mine, Tombstone District, Cochise County, Arizona (see Nos. 2015 and 2485). J. G. Manning.

5078. **Quartz Breccia,** Picket Post, Pinal County, Arizona.

5079. **Volcanic Rock,** which crops out in immense masses, near Picket Post, Pinal County, Arizona.

5080. **Sedimentary Sandstone,** Seal Rock, off Point St. George, northwest boundary of California. Col. R. S. Williamson, U. S. Engineers.

5081. **Sandstone,** west side of the Great Eastern Quicksilver Mine, Sonoma County, California, supposed to be the foot-wall (see No. 2744).

5082. **Foot-Wall** of the Great Eastern Quicksilver Mine, Sonoma County, California, 220-foot level (see No. 5081).

5083. **Limestone,** near Auburn, Placer County, California. George W. Kimble.

5084. **Cellular Lava with Zeolite,** Soledad Cañon, Los Angeles County, California. G. D. Keeney.

5085. **Rock Specimen** (undetermined), corner Pine and Powell Streets, San Francisco.

5086. **Gneiss,** said to be found in San Francisco in place but this needs confirmation. William Robinson

5087. **Chalcedonic Quartz** (banded), Santa Rita Mountains, Pinal County, Arizona. J. G. Manning.

5088. **White Dolomite,** Tujunga Cañon, 7 miles from San Fernando, San Gabriel Mountains, Los Angeles County, California.

Valuable for building and manufacturing purposes.

5089. **Cement Rock** (Impure carbonate of lime), hill west of road to Weston's Cañon, San Gregorio Pass, San Bernardino County, California. Welwood Murray.

5090. **Clay** (overlying cement rock, No. 5089), San Gregorio Pass, San Bernardino County, California. Welwood Murray.

5091. **Rock Specimen,** Woodford's, Alpine County, California. Edward Barnes.

5092. **Rock Specimen** (country rock), Silver King Mine, Pinal County, Arizona.

5093. **Rock Specimen** (fine sedimentary), Town of Los Angeles, California.

5094. **Porphyry** (ten varieties), Florence, Pinal County, Arizona, from the bed of the Gila River.

5095. **Volcanic Rocks** (13 varieties), bed of the Gila River, near Florence, Pinal County, Arizona.

5096. **Red Jaspery Rock,** bed of the Gila River, near Florence, Pinal County, Arizona.

5097. **Crystalline Rocks** (three varieties), bed of the Gila River, near Florence, Pinal County, Arizona.

5098. **Building Stone,** used in Portland, Oregon.

5099. **Silver Ore,** Sultana Mine, forty miles from Salem, Linn County, Oregon.

5100. **Silver Ore,** Monumental Mine, Oregon.

5101. **Silver Ore,** Sheridan Mine, Grant County, Oregon.

5102. **Silver Ore,** Capital Mine, Santiam River, Oregon.

5103. **Iron ore** (typical specimen of the Oswego Iron Mine), seven miles from Portland, Oregon. J. S. Hoitt.

5104. **Lava and Olivine,** five miles above the Dalles, Oregon. Mrs. A. Boyd.

5105. **Coal,** Washington Territory.

5106. **Priceite** (Borate of Lime), Calico, San Bernardino County, California. S. Heydenfeldt, Jr.

5107. **Pyrolusite** (of excellent quality), Sonoma County, California. M. F. Truitt.

5108. **Pyrrhotite,** Colorado.

5109. **Cellular Lava,** Captain Jack's Cave, Modoc Lava Beds, Modoc County, California. Dr. F. G. Hearn.

5110. **Stove Leg of Cast Iron** (run directly from the stack), Oregon Iron Company, Oswego, Clackamas County, Oregon. From the Company.

5111. **Copper and Slag** (the result of the working of ten pounds of ore, No. 2730), Weir Copper Mine, Pueblo Valley, Humboldt County Nevada; one ton contains 450 pounds metallic copper. J. C. Weir.

5112. **Cake of Sun-burned Clay,** Reno, Nevada. R. V. Borden.

5113. **Silver Ore,** Big Bonanza Mine, Frisco, Beaver County, Utah.

5114. **Obsidian,** Snake River, Idaho. William Quayle.

5115. **Salt,** Mud Volcanoes, San Diego County, California.

5116. **Magnetite,** Locality not given. Mr. Putnam.

5117. **Silver Ore,** La Union Mine, El Boles District, Sinaloa, Mexico. F. E. Monteverde.

5118. **Cane,** made from a piece of Commodore Perry's flag-ship St. Lawrence, in which he fought the battle of Lake Erie, September 10, 1813. Captain H. A. Gorley.

5119. **Marble** (Brocatella), three varieties. J. Z. Davis.

5120. **Chromic Iron,** southeast quarter of Section 21, Township 14 north, Range 9 east, Placer County. R. L. Dunn.

5121. **Volcanic Rock,** Oahu, Sandwich Islands, Sea Shore.

5122. **Volcanic Rock** (Basalt), Mauna Valley, Oahu, Sandwich Islands. Five varieties.

5123. **Basalt with Olivine,** Mauna Valley, Oahu, Sandwich Islands.

5124. **Silver Lead Ore,** Dean Richmond Mine, Tombstone, Pima County, Arizona. J. G. Manning.

5125. **Silver Ore,** El Capitan, Pinal Summit, sixty miles east of Florence, Pinal County, Arizona. J. G. Manning.

5126. **Silver Ore,** Bonanza King Mine, Bonanza King Consolidated Mining Company of New York, Providence Mountains, San Bernardino County, California; 300-foot level, south winze. Thomas Ewing.

5127. **Silver Ore,** Bonanza King Mine, Providence Mountains, San Bernardino County, California; second winze, 200-foot level (see No. 5126). Thomas Ewing.

5128. **Silver Ore,** Bonanza King Mine, Providence Mountains, San Bernardino County, California; third winze north, 300-foot level. Thomas Ewing.

5129. **Silver Ore,** Bonanza King Mine, Providence Mountains, San Bernardino County, California; 400-foot level. Thomas Ewing.

5130. **Silver Ore,** Bonanza King Mine, Providence Mountains, San Bernardino County, California; seventh winze, 400 foot level. Thomas Ewing.

5131. **Silver Ore,** Bonanza King Mine, Providence Mountains, San Bernardino County, California ; 400-foot level, north. Thomas Ewing.

5132. **Silver Ore,** Bonanza King Mine, Providence Mountains, San Bernardino County, California ; 450-foot level. Thomas Ewing.

5133. **Silver Ore,** Bonanza King Mine, Providence Mountains, San Bernardino County, California; No. 4 winze, 300-foot level. Thomas Ewing.

5134. **Silver Ore,** Bonanza King Mine, Providence Mountains, San Bernardino County, California; No. 4 winze, 300-foot level. Thomas Ewing.

5135. **Silver Ore** (fine Chloride Ore), Bonanza King Mine, Providence Mountains, San Bernardino County, California ; 400-foot level. Thomas Ewing.

5136. **Stone Pestle of Mica Schist,** California. D. C. Stone.

5137. **Stone Axe,** California. D. C. Stone.

5138. **Stone Pestle,** plowed up in a field one and a half miles northeast of Santa Cruz, California. J. Z. Davis.

5139. **Stone Ring,** San Nicholas Island, Coast of California. J. Z. Davis.

5140. **Arrow Heads of Jasper,** Eastern States, eighteen varieties. Philip I. Figel.

5141. **Stone Implement** (very rude), Shell Mound, West Berkeley, California. J. B. Pownall.

5142. **Arrow Heads of Jasper and Obsidian** (with chips), Navarro Ridge, Mendocino County, California ; eleven specimens. William H. Moody.

5143. **Arrow Head of Obsidian,** Freestone, Sonoma County, California. W. J. Woodley.

5144. **Arrow Heads of Obsidian,** Goose Lake, Modoc County, California. Hon. John Daggett.

5145. **Stone Ring,** Santa Rosa Island, Coast of California (see No. 5139). J. Z. Davis.

5146. **Stone Axe,** Eastern States. Philip I. Figel.

5147. **Stone Axe,** Eastern States. Philip I. Figel.

5148. **Stone Axe,** Eastern States. Philip I. Figel.

5149. **Stone Axe,** Eastern States. Philip I. Figel.

5150. **Stone Axe,** Eastern States. Philip I. Figel.

5151. **Stone Axe,** Eastern States. Philip I. Figel.

5152. **Spear Head of Obsidian,** San Pablo, Contra Costa County, California. William K. McGrew.

5153. **Arrow Head of Jasper,** Monticello, Santa Barbara County, California. C. R. Knapp.

5154. **Arrow Head of Obsidian,** Summit of Point Lobos, San Francisco. C. R. Knapp.

5155. **Coin Bag,** Burgoyne & Co.'s Bank. I. Bluxome.

5156. **Silver Dollar,** Republic of Honduras, 1883. Thos. R. Lombard.

5157. **Curious Concretion** (impure Magnesite), from a low flat at the base of a limestone bluff, three miles west of Luning, Esmeralda County, Nevada. Harry Gates.

5158. **Copper Ore** (Cuprite), in beautiful Microscopic Crystals, with Chrysocolla and threads of Cerargyrite. J. F. Wilson.

There is said to be a large deposit of this mineral near Lundy, Mono County, California.

5159. **Magnesite,** Damascus, Placer County, California. William Brome, Jr.

Large quantities of this mineral at the locality.

5160. **Compressed Quartz Crystals,** found between the lamina of Mica (No. 4764), Tombstone, Cochise County, Arizona.

5161. **Pebbles of Porphyry,** Beach at Monterey, California. Charles S. Stone.

5162. **Pebbles of Red Jasper,** Beach at Monterey, California. Charles S. Stone.

5163. **Triangular Prism of Quartz** (edges modified by planes, see 3782), Standard Mine, Bodie, Mono County, California. W. P. Jenney.

5164. **Silver Ore,** Belle McGilivray Mine, near the surface, Providence Mountains, San Bernardino County, California. Thomas Ewing.

5165. **Small Indian Stone Mortar,** San Nicholas Island, Coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5166. **Small Indian Stone Mortar,** San Nicholas Island, coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5167. **Perforated Stone,** San Nicholas Island, coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5168. **Perforated Stone,** San Nicholas Island, coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5169. **Perforated Stone,** San Nicholas Island, coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5170. **Perforated Stone,** used for throwing in Indian games like quoits, (?) two specimens, San Nicholas Island, coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5171. **Strings of Beads,** perforated shells, San Nicholas Island, coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5172. **Rings of Shell,** six specimens, San Nicholas Island, Coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5173. **Implements of Bone,** probably used in some Indian game, two specimens, San Nicholas Island, coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5174. **Tubes of Bone,** San Nicholas Island, coast of California, south of Santa Barbara and Ventura, Californa. J. Z. Davis.

5175. **Silver Ore,** Belle McGilivray Mine, 40-foot level, Providence Mountains, San Bernardino County, California. Thomas Ewing.

5176. **Silver Ore,** Belle McGilivray Mine, 120-foot level, Providence Mountains, San Bernardino County, California. Thomas Ewing.

5177. **Paper Mulberry** (Broussonetia Papyrifera), from which Tapa Cloth is made (see 5178). J. Z. Davis.

5178. **Tapa,** Cloth made from the Paper Mulberry (No. 5177) by the natives of the Samoan Islands. J. Z. Davis.

This piece was the dress of Folau Samoa, the native Chief of Savaii, one of the Navigator Islands.

5179. **Photograph of Chief Folau Samoa,** of Savaii, one of the Navigator Islands. J. Z. Davis.

5180. **Tapa or Native Cloth,** made from the inner bark of the Paper Mulberry (Broussonetia Papyrifera) by the women of the Fiji Islands, South Pacific. J. Z. Davis.

5181. **Tapa or Native Cloth,** made from the inner bark of the Paper Mulberry (Broussonetia Papyrifera) by the women of the Marquesas Islands, South Pacific. J. Z. Davis.

5182. **Tapa or Native Cloth,** made from the inner bark of the Paper Mulberry (Broussonetia Papyrifera) by the women of Niue or Savage Island, South Pacific. J. Z. Davis.

There are forty-two patterns on this sample, all different.

5183. **Belt,** made and worn by the women of the Marquesas Islands, South Pacific. J. Z. Davis.

5184. **Neck Piece of Tapa,** worn by the women of the Marquesas Islands, South Pacific. J. Z. Davis.

5185. **Tapa or Native Cloth,** from the inner bark of the Paper Mulberry, colored in various designs with the juice of plants, the work of the women of the Samoan or Navigator Islands, South Pacific. J. Z. Davis.

5186. **Tapa or Native Cloth,** made from the inner bark of Paper Mulberry by the women of the Marquesas Islands, South Pacific. J. Z. Davis.

This specimen is very carefully beaten, showing a laid surface.

5187. **Lignite, Brown Coal,** Willit's, Mendocino County, California. A caking and coking Coal, resembling the Carson Hill Coal. E. R. Shimmin.

Analysis: Fixed carbon, 41.75; ash, 39.25; volatile combustible matter, and water, 19.00=100.

5188. **Old Flag-Staff,** from the Old Fort at Monterey, California, upon which the first American flag was hoisted July 7, 1846, by a body of two hundred and fifty sailors and marines from the United States ship Savannah, Commodore Sloat, and under the immediate command of Captain Mervine. Presented by General J. M. Schofield, June 29, 1883.

5189. **Sample of Salt** (No. 1), manufactured in 1882, at Mount Eden, Alameda County, California. Presented by Lawrence N. Whisby.

The details of the manufacture of bay salt are described in the Second Report of the State Mineralogist, folio 217.

5190. **Tubes of Stone,** two specimens, San Nicholas Island, coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5191. **Beads of Stone,** two specimens, San Nicholas Island, coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5192. **Typical Specimen of Slickens,** taken from the American River near Sacramento.

For description and analysis, see Second Report of the State Mineralogist, folio 99.

5193. **Human Hair,** used as an ornament by the natives of the Marquesas Islands, South Seas. J. Z. Davis.

5194. **Necklace,** worn by the natives of the New Hebrides Islands, South Seas. J. Z. Davis.

5195. **Cast of a Stone War Club or Cleaver,** the original is made of Metamorphic Blue Slate, and was found in 1877, with numerous relics and human remains, six feet below the surface, in alluvial soil, near Saint Helens, Columbia River, Oregon. J. Z. Davis.

5196. **Stone Adze,** Marquesas Islands, South Pacific. J. Z. Davis.

5197. **Lithographic Stone,** Germany. J. G. Kelley.

5198. **Cast of a Stone Idol, or Image,** the original carved out of very hard basalt; formerly used as an object of worship by the natives of the Marquesas Islands, South Seas. J. Z. Davis.

5199. **Cast of a Stone Image, or Idol,** the original is carved out of hard basaltic rock; it is a very rare and interesting specimen of native carving, cut by the Maories of New Zealand (the original is in the collection of Sir George Grey), Island of Kawau, near Auckland, New Zealand. J. Z. Davis.

5200. **Cast of Bone Idols, or Images,** the originals are thought to be carved from sperm whale teeth—old and interesting specimens—made by hand, and thought to be objects of worship. Made by the natives of the Fiji Islands. J. Z. Davis.

5201. **Fire Bricks,** from California fire clay at Lincoln, Placer County, California. The clay from which they are made underlies *ionite* (see No. 982). John Landis.

5202. **Ornamental Imitation of a Sword,** made from Chinese coin (cash), in China. J. Z. Davis.

5203. **Pair of Spectacles,** made in China. J. Z. Davis.

5204. **Wooden Comb,** made in China. J. Z. Davis.

5205. **Heads of Baked Clay,** from the Pyramid of El Sol, forty miles from the City of Mexico (see No. 4049). J. Z. Davis.

5206. **Bracelets of Nephrite, or Jade,** highly prized in China and much used for ornamental purposes. J. Z. Davis.

5207. **Wooden Mallet, or Club.** J. Z. Davis.

Used in beating out the paper mulberry (*Broussonetia Papyrifera*) into tapa or native cloth, by the native women of the Marquesas Islands, South Pacific (see Nos. 5177 and 5178). It will be observed that the surface of the implement is grooved or striated, by which the same surface is imparted to the cloth. Best shown in No. 5186.

5208. **Ring,** made of gold found at Goldsborough, Wayne County, North Carolina –the first gold mined in the United States in 1795. The ring was worn by the grandmother of D. Morgan White, the donor.

5209. **Model of a Slab,** showing the footprints of the Moa (*Dinornis*), a recently extinct gigantic bird of New Zealand. J. Z. Davis.

The tracks are in relief, the reverse of those on the original, being cast from them. The length of the stride is 19 inches; tracks from heel to toe, 8 inches; from first claw to third claw, 8¼ inches. Similar tracks have been found from time to time at the same locality. Found in October, 1875, by C. D. Voy, at Gisborne, Poverty Bay, New Zealand.

5210. **Blue Gravel,** bottom stratum, lying on bedrock, from six to ten feet deep. Spring Valley Hydraulic Mine, Cherokee, Butte County, California. Louis Glass.

5211. **White Top Gravel,** from twenty to four hundred feet thick, overlying rotten bowlders (No. 5212). Spring Valley Hydraulic Mine, Cherokee, Butte County, California. Louis Glass.

5212. **Yellow, or Rotten Bowlders,** stratum from one to ten feet thick, overlying blue gravel, No. 5210 and covered by No. 5211. This deposit is rich in gold. Spring Valley Hydraulic Mine, Cherokee, Butte County, California. Louis Glass.

5213. **Mechanical and Semi-Chemical Analysis of Auriferous Gravel,** from Nevada Hydraulic Mine, Chalk Bluffs, Nevada County, California (see Second Report of State Mineralogist, 1882, folio 97).

	Per Cent.	Per Cent Quartz.
Portion "A," zircon sand	00.01	----------
Portion "B," large pebbles	39.80	89
Portion "C," coarse gravel	29.80	63
Portion "D," remained on No. 10 sieve	7.67	57
Portion "E," remained on No. 20 sieve	1.03	59
Portion "F," remained on No. 40 sieve	3.13	78
Portion "G," remained on No. 60 sieve	3.90	86
Portion "H," remained on No. 80 sieve	1.53	80
Portion "K," remained on No. 100 sieve	1.37	82
Portion "L," passed No. 100 sieve	1.47	72
Portion "M," slickens	10.29	Nearly all

5214. **Cannel Coal,** showing the impression of the bark of stigmaria (?). Austin, Nevada. E. Wolleb.

5215. **Auriferous Quartz**, Grizzly Ridge, Love & Williams' Mine, Plumas County, California. H. P. Love.

5216. **Wad**, Earthy Binoxide of Manganese, Kingston, New Mexico. Jay G. Kelly.

5217. **Calcite**, Little Jimmy Mine, Kingston, New Mexico. Jay G. Kelly.

5218. **Tamiosma Gregaria** (Con.), Upper Miocene Tertiary Fossil, near Soledad, Monterey County, California. (Figured in Pale. Cal., Vol. 11, Plate 18.)

5219. **Boracic Acid**, manufactured from Borate of Lime, from Desert Springs, Kern County, California (see Third Annual Report of State Mineralogist, folio 29). Manufactured and presented by the Boracic Acid Manufacturing Company, J. B. Hobson, Superintendent.

5220. **Aragonite** (so called Onyx Marble), from near Yreka, Siskiyou County, California. F. G. Hearn.

5221. **Cedro** (cedar), wood from Honduras. Presented by Marco A. Soto, President of the Republic.

5222. **Caoba** (Mahogany), Honduras wood. M. A. Soto.

5223. **Granadillo** (Rosewood), Honduras wood. M. A. Soto.

5224. **Zapotillo**, Honduras wood. M. A. Soto.

5225. **Mora** (Mulberry), Honduras wood. M. A. Soto.

5226. **Coyote**, Honduras wood. M. A. Soto.

5227. **Ronron**, Honduras wood. M. A. Soto.

5228. **Madreado**, Honduras wood. M. A. Soto.

5229. **Biscuite**, Honduras wood. M. A. Soto.

5230. **Palo Negro** (Black wood), Honduras. M. A. Soto.

5231. **Cortez**, Honduras wood. M. A. Soto.

5232. **Balzamo** (Balsam), Honduras wood. M. A. Soto.

5233. **Palo Blanco** (White wood), Honduras. M. A. Soto.

5234. **Nispero,** Honduras wood. M. A. Soto.

5235. **Tucucua,** Honduras wood. M. A. Soto.

5236. **Tumera,** Honduras wood. M. A. Soto.

5237. **Tincho,** Honduras wood. M. A. Soto.

5238. **Almendro,** Honduras wood. M. A. Soto.

5239. **Manacapa,** Honduras wood. M. A. Soto.

5240. **Tisate,** Honduras wood. M. A. Soto.

5241. **Tontolo,** Honduras wood. M. A. Soto.

5242. **Baina Espada,** Honduras wood. M. A. Soto

5243. **Guachipilin,** Honduras wood. M. A. Soto.

5244. **Chichipate,** Honduras wood. M. A. Soto.

5245. **Estoraque** (Storax), Honduras wood. M. A. Soto.

5246. **Carreto,** Honduras wood. M. A. Soto.

5247. **Quiebrahacha,** Honduras wood. M. A. Soto.

5248. **Quebracho,** Honduras wood. M. A. Soto.

5249. **Roble** (Oak), Honduras wood. M. A. Soto.

5250. **Copalillo,** Honduras wood. M. A. Soto.

5251. **Madre Cacao,** Honduras wood. M. A. Soto.

5252. **Cedrillo,** Honduras wood. M. A. Soto.

5253. **Esquia,** Honduras wood. M. A. Soto.

5254. **Cirruelo de Montana** (Mountain Plum), Honduras wood. M. A. Soto.

5255. **Arallan,** Honduras wood. M. A. Soto.

5256. **Pachoncillo,** Honduras wood. M. A. Soto.

5257. **Nacascolo,** Honduras wood. M. A. Soto.

5258. **Quina Roja** (Red Cinchona), Honduras wood. M. A. Soto.

5259. **Maria,** Honduras wood. M. A. Soto.

5260. **Negrito de Montana,** Honduras wood. M. A. Soto.

5261. **Trijolillo,** Honduras wood. M. A. Soto.

5262. **Palo de Arco** (Bow Wood), Honduras. M. A. Soto.

5263. **Chichicuite,** Honduras wood. M. A. Soto.

5264. **Uva** (Sycamore), Honduras wood. M. A. Soto.

5265. **Pimientilla,** Honduras wood. M. A. Soto.

5266. **Pimienta** (Pepper Tree), Honduras wood. M. A. Soto.

5267. **Espino Verde** (Green Thorn), Honduras wood. M. A. Soto.

5268. **Tontol,** Honduras wood. M. A. Soto.

5269. **Cedro Espino** (Thorny Cedar), Honduras wood. M. A. Soto.

5270. **Oja Pendula,** Honduras wood. M. A. Soto.

5271. **Canilla de Tigre,** Honduras wood. M. A. Soto.

5272. **Guayacan** (Lignumvitæ), Honduras wood. M. A. Soto.

5273. **Chaperna,** Honduras wood. M. A. Soto.

5274. **Nogal** (Walnut), Honduras wood. M. A. Soto.

5275. **Macueliz,** Honduras wood. M. A. Soto.

5276. **Encino** (Live Oak), Honduras wood. M. A. Soto.

5277. **Nance,** Honduras wood. M. A. Soto.

5278. **Teguaje,** Honduras wood. M. A. Soto.

5279. **Roble Blanco** (White Oak), Honduras wood. M. A. Soto.

5280. **Gualabillo,** Honduras wood. M. A. Soto.

5281. **Alazan,** Honduras wood. M. A. Soto.

5282. **Caoba de Concepcion,** Honduras wood. M. A. Soto.

5283. **Refined Borax,** refined by the Harmony Borax Company, in Alameda County, California. Presented by the Company.

5284. **Kaolin,** Sections 4 and 5, Township 16 north, Range 8 east, Nevada County, California. Millen Ford.

5285. **Kaolin,** baked in potter's oven, by Gladding & McBean, and pronounced by them to be a good white burning clay, or kaolin, from the deposit No. 5284, Nevada County, California.

5286. **Refined Borax,** manufactured by the San Bernardino Borax Mining Company (see No. 3379).

5287. **Rock Specimen,** hanging wall, Nevada City Mine, 600-foot level (see No. 4853); the mine is situated one mile and a half from Nevada City, Nevada County, California. E. P. Heald.

5288. **Rock Specimen,** foot wall of the Nevada City Mine, one and a half miles from Nevada City, Nevada County, California (see No. 5287). E. P. Heald.

5289. **Sulphuret Ore,** with visible free gold, Nevada City Mine, one and a half miles from Nevada City, Nevada County, California (see No. 4853). E. P. Heald.

5290. **Refined Borax,** from Teel's Marsh, Esmeralda County, Nevada. Smith Brothers.

5291. **Borate of Lime** (Ulexite), Desert Springs Lake, Kern County, California. Boracic Acid Manufacturing Company, J. B. Hobson, Superintendent.

5292. **Borate of Lime** (Sheet Cotton), Desert Springs Lake, Kern County, California. J. B. Hobson.

5293. **Boracic Acid,** 99.8 per cent. Boracic Acid Manufacturing Company, J. B. Hobson, Superintendent (see No. 5219).

5294. **Iron Ore,** found in large quantities at Tepuche, ten miles from Culiacan, Sinaloa, Mexico, with an abundance of wood and water. James D. Schuyler.

5295. **Tooth of a Horse,** found on a creek that empties into Eel River, Humboldt County, California, in a soft stone which seems to be sedimentary. It is probably fossil. The remains of fossil horses have been found in abundance in Oregon. R. E. Herrick.

5296. **Limonite Crystals, after Pyrite,** containing gold. Butte County, California. Mrs. Charles Slocum.

5297. **Crude Borate of Lime** (Cotton Balls), from which boracic acid is made (see No. 5219), from Desert Springs Lake, Kern County, California. Described folios 29 and 81, Part II, Third Annual Report of the State Mineralogist. Presented by the Boracic Acid Manufacturing Company, J. B. Hobson, Superintendent.

5298. **Crude Borate of Lime,** variety known as Sheet Cotton, described folio 83, Part II, Third Annual Report of the State Mineralogist. From Desert Springs, Kern County, California, and presented by the Boracic Acid Manufacturing Company, J. B. Hobson, Superintendent.

5299. **Ammonite,** found in the mountains, Placer County, California. John Hemsley (see letter on file).

5300. **Agalmatolite** (?), somewhat resembling the Chinese Figure Stone, and similar to a rock from San Luis Obispo County (No. 4060). This beautiful ornamental stone is found two miles west of Greenwood, El Dorado County, California, in a vein from six inches to a foot in thickness. Alex. Keller.

5301. **Yellow Ochre,** of good color and quality; found in large quantity on Section 32, Township 12 north, and Range 11 east, four miles east of Georgetown, El Dorado County, California. E. H. Watson.

5302. **Silver-Gold Ore,** 340-foot level, Oro Mine, Bodie, Mono County, California. T. Steel.

5303. **Silver-Gold Ore,** 440-foot level, Oro Mine, Bodie, Mono County, California. T. Steel.

5304. **Silver-Gold Ore,** 520-foot level, Oro Mine, Bodie, Mono County, California. T. Steel.

5305. **Silver-Gold Ore,** 750-foot level, Oro Mine, Bodie, Mono County, California. T. Steel.

5306. **Horns of the Mountain Sheep,** *Ovis Montana* (Cuv.), called, also, Big Horn, Wild Rose District, Telescope Range, Inyo County, California. Capt. J. M. Keeler.

5307. **Models of Mining Tools,** made and presented by F. O. Shuster.

5308. **Models of Mining Tools,** presented by Isaac Bluxome, Jr.

A—Wright's Pick.
B—Drifting Pick.
C—Mattock.
D—Poll Pick.
E—Scraper.
F—Tamping Bar.
G—Smith's Tongs.
H—Hand Hammer.
I—Striking Hammer.
J—Stone Hammer.
K—Crowbars.
L—Pinch-bar.
M—Shovel.
N—Axe.
O—Spoon.
P—Drills.
Q—Gads.

5309. **Solar Salt,** from the great deposit in the bed of an ancient lake in the Colorado Desert, San Diego County, California, now being worked by the New Liverpool Salt Company. W. H. Barton.

5310. **Aztec Calendar Stone,** Model. (See No. 2306.) J. Z. Davis.

The three principal monuments of Mexico, Tenochtitlan, are the Calendar Stone, the so called Sacrificial Stone, and the Idol called Teoyaomiqui. They were all dug up in the Plaza Mayor, City of Mexico, the ancient Aztec capital, where the great Teocalli is supposed to have stood, and where they were doubtless thrown down and buried from the sight of the natives at the time of the Conquest. In the years 1790 to 1792, the Plaza was leveled and paved by order of the Government, and in the excavations for this purpose and for drainage, the three monuments were discovered, the Calendar Stone and the Idol, very near the surface, and the third relic at a depth of 25 or 30 feet. The Calendar Stone, when found, was a rectangular parallelopipedon of porphyry, 13 feet 1¼ inches square, 3 feet 3¼ inches thick, and estimated as weighing, in its present mutilated state, 24 tons. The sculptured portion on one side

is inclosed in a circle. It is 11 feet 1½ inches in diameter, and is in low relief, and very accurately worked, and projects about 6 inches from the broken square of porphyry out of which the whole was originally carved. These are the dimensions given by Humboldt, who personally examined the stone. The stone has been for many years built into the wall of the Cathedral at the base, where it is exposed to the view of all passers-by, and to the action of the elements. While lying uncovered in the plaza it was considerably mutilated by the natives, who took the opportunity of manifesting their horror of the ancient gods by pelting with stones this relic of their paganism. Fortunately the sculptured portions have been but slightly injured, and are shown in the model. Respecting the excellence of the sculpture, Humboldt says: "The concentric circles, the division, and subdivisions without number, are traced with mathematical exactitude; the more we examine the details of the sculpture, the more we discover this taste for repetitions of the same forms, this spirit of order, this sentiment of symmetry, which among half-civilized people, takes the place of the sentiment of the beautiful." No stone like that from which the Calendar Stone is hewn, is found within a radius of twenty-five or thirty miles of the City of Mexico, and this may be regarded as the largest block which the natives are known to have moved over a long distance.

For fuller particulars in reference to the above Calendar, refer to De Gama's "*Discripcion Historica*," Humboldt, Nebel, and others, on the "Antiquities of Mexico."

5311. **Silver Ore,** Trade Dollar Mine, Deep Spring District, Inyo County, California. S. D. Woodhull.

5312. **Gold Quartz,** Sacramento Mine, near Bishop Creek, Inyo County, California. S. D. Woodhull.

5313. **Galena,** from the Leadville Mine, Inyo County, California. S. D. Woodhull.

5314. **Gold Quartz,** County Line Mine, Bishop Creek District, Inyo County, California. S. D. Woodhull.

5315. **Silver Ore,** Trade Dollar No. 2 Mine, Deep Spring District, Inyo County, California (see No. 5311). S. D. Woodhull.

5316. **Silver Ore,** Richmond Mine, Deep Spring District, Inyo County, California. S. D. Woodhull.

5317. **Gold Quartz,** Sacramento Mine, Bishop Creek District, Inyo County, California. S. D. Woodhull.

5318. **Silver Lead Ore,** Comstock Mine, Darwin District, Inyo County, California. S. D. Woodhull.

5319. **Silver Ore,** Pacific Mine, Inyo County, California. S. D. Woodhull.

5320. **Silver Ore,** Old Dominion Mine, Snow's Cañon, Inyo County, California. S. D. Woodhull.

5321. **Silver Ore,** Black Warrior Mine, Lookout District, Inyo County, California. S. D. Woodhull.

5322. **Silver Ore,** Variety Mine, Darwin District, Inyo County, California. S. D. Woodhull.

5323. **Silver Ore,** Defiance Mine, Darwin District, Inyo County, California. S. D. Woodhull.

5324. **Silver Ore,** Defiance Mine, Darwin District, Inyo County, California (see No. 5323).

5325. **Silver Ore,** Advance Mine, Coso District, near Darwin, Inyo County, California. Said to assay $3,000 per ton. S. D. Woodhull.

5326. **Copper Ore,** Copper Grand Mine, Darwin District, Inyo County, California. S. D. Woodhull.

5327. **Silver Ore,** Tower Mine, Deep Spring District, Inyo County, California. S. D. Woodhull.

5328. **Silver Ore,** American Flag Mine, Swansea District, Inyo County, California. S. D. Woodhull.

5329. **Galena,** with heavy gold, Soulsby Mine, Section 31, Township 2 north, Range 16 east, Tuolumne County, California. John Leechman, Resident Manager.

5330. **Galena,** with quartz and free gold, from above the second level, Soulsby Mine, Tuolumne County, California (see No. 5329). John Leechman.

5331. **White Quartz,** with galena, very rich in gold; above the second level, Soulsby Mine, Tuolumne County, California (see No. 5329). John Leechman.

5332. **Quartz,** with gold sulphurets, from the fifth level, Soulsby Mine, Tuolumne County, California (see No. 5329). John Leechman.

5333. **Quartz,** from winze below the bottom level. The deepest workings in the mine - 640 feet. Soulsby Mine, Tuolumne County, California (see No. 5329). John Leechman.

5334. **Quartz largely impregnated with Gold—very rich,** from the stope below the deepest level, Soulsby Mine, Tuolumne County, California (see No. 5329). John Leechman.

5335. **Quartz with Sulphurets,** from above the bottom level—north workings; two pieces—Soulsby Mine, Tuolumne County, California (see No. 5329). John Leechman.

5336. **Quartz with Iron Pyrite,** heavy gold in the quartz, and also in the Pyrite, from the No. 6 level, Soulsby Mine, Tuolumne County, California (see No. 5329). John Leechman.

5337. **Gold Quartz,** from the Platt Mine, extension of the Soulsby Mine (see No. 5329), with Galena and Gold, Tuolumne County, California. John Leechman.

5338. **Heavy Gold,** in close association with Granite, Soulsby Mine, Tuolumne County, California (see No. 5329). John Leechman.

5339. **Quartz with Gold and Pyrite,** Soulsby Mine, Tuolumne County, California (see No. 5329). John Leechman.

5340. **Rock Specimen,** country rock, Granite, or Quartz Diorite (?), Soulsby Mine, Tuolumne County, California (see No. 5329). John Leechman.

5341. **Metamorphic Slate,** which accompanies the quartz vein, Soulsby Mine, Tuolumne County, California (see No. 5329). John Leechman.

5342. **Metamorphic Slate,** with quartz attached, Soulsby Mine, Tuolumne County, California (see No. 5329). John Leechman.

5342. **Aragonite,** slab polished, so called, Oynx Marble, Suisun, Solano County, California (see Nos. 2, 261, 386, 556, 670), all from the same locality, but different varieties. T. M. Swan.

5344. **Red Marble,** a beautiful ornamental stone, bearing a good polish, Amador County, California. J. W. Loomis.

5345. **Aragonite,** so called Onyx Marble, found in considerable quantity near Vacaville, Solano County, California; takes a high polish, and is suitable for use as an ornamental stone. D. P. Belknap.

5346. **Schist,** with impressions of fossil plants, found in the lignite near Vacaville, Solano County, California. D. P. Belknap.

5347. **Cinnabar** (quicksilver ore), weight 290 pounds, from the New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol.

5348. **Gilded Cube,** representing the average annual yield of gold in the State of California for 33 years, from 1848 to 1880, inclusive.

Total yield, $1,017,476,065; average annual yield, $30,832,608; 84.8 cubic feet; face of cube, 4.396 feet square. These results are only approximate. There are no statistics which give the *exact* yield of gold from the mines of California. For further particulars see second report of the State Mineralogist, 1880, folio 171.

5349. **Silicious Limestone,** with what seems to be graphite or molybdenite in small scales, Kern County, California.

5350. **Japanese Compass.** Presented by George E. Schenck.

The mariner's compass is said to have been first introduced into Europe from China by Marco Polo in 1260, but there is reason to believe that it was in use in Syria about 1150. It is nevertheless claimed that the Chinese first used it in the form of a natural loadstone (see No. 3674) floated on a cork.

5351. **Wulfenite,** Molybdate of Lead in small crystals, found six miles northeast of Cane Springs, Kern County, California. W. P. Gummer.

5352. **Fossil Fish** (species not determined), a very fine specimen. Green River, Wyoming. J. Z. Davis.

5353. **Head of the Buffalo, or Bison** (Bos americanus), Wyoming. J. Z. Davis.

5354. **Crystallized Aragonite,** twenty miles from Denver, Colorado. J. Z. Davis.

5355. **Stalactite** (calcite), from the Luray Cave, Page County, Virginia.

5356. **Stalactite** (calcite), cut in sections and polished; from the Luray Cave, Page County, Virginia.

5357. **Quartz Crystallized**, near West Point, Calaveras County, California. S. Ruffino.

5358. **American Golden Eagle** (Aquila canadensis), female, Calaveras County, California. Ira H. Reed.

5359. **Hair Ball, or Lick Ball,** taken from the stomach of a goat; Garden Valley, El Dorado County, California (see No. 2332). Presented by Joseph Grace.

5360. **Silver Spanish Dollars.** These coins were taken from the wreck of the Spanish frigate Leocadia, wrecked on the coast of Ecuador in 1802, by the wrecking schooner Mary Taylor, Captain Parker, under the direction of the Pacific Coast Wrecking Company, in 1875.

The wrecked frigate was supposed to have $5,000,000 on board, but only about 8,000 pieces were obtained by the company. Previous attempts had been made to obtain this treasure, but without success. These coins were obtained from S. P. Taylor, who was a prominent stockholder in the company, and presented by George Spaulding. The coins show the effect of exposure to the action of the salt water for seventy-two years.

5361. **Sedimentary Rock,** from the Sandwich Islands; made up of coral sand and particles of lava; very interesting, as showing how sedimentary rocks are formed. S. Heydenfeldt, Jr.

5362. **Sand from which Plate Glass is made,** Pittsburgh Plate Glass Company, Creighton, Pennsylvania.

5363. **Plate Glass in the rough state,** as first cast: used, also, for floors and skylights; extra thick: two samples. Pittsburgh Plate Glass Company, Creighton, Pennsylvania.

5364. **Plate Glass in the rough state**; also used for skylights; thinner than No. 5363. Pittsburgh Plate Glass Company, Creighton, Pennsylvania.

5365. **Plate Glass, Ground**; first operation. Pittsburgh Plate Glass Company, Creighton, Pennsylvania.

5366. **Plate Glass, Smooth Ground**; second process. Pittsburgh Plate Glass Company, Creighton, Pennsylvania.

5367. **Plate Glass, Polished;** final process; two specimens. Pittsburgh Plate Glass Company, Creighton, Pennsylvania.

5368. **Andradite** (common garnet), surface changed to chlorite; Fahlun, Sweden. J. Z. Davis.

5369. **Impure Dolomite,** found near the State University, Berkeley, Contra Costa County, California, mistaken for Pozzuolana. Presented by C. L. Ross.

5370. **Indian Stone implement, or Phallic Emblem,** a very remarkable specimen, found near Chetco, Curry County, Oregon. Presented by John Cresswell.

5371. **Stone Implement, or Phallic Emblem,** near Chetco, Curry County, Oregon. John Cresswell.
This specimen resembles No. 5371, from the same locality.

5372. **Stone Implement, or Phallic Emblem,** near Chetco, Curry County, Oregon. John Cresswell.

5373. **Perforated Stone,** found near Chetco, Curry County, Oregon. John Cresswell.

5374. **Engraved Bone,** found near Chetco, Curry County, Oregon. Mrs. John Cresswell.

5375. **Bone Bodkin,** found near Chetco, Curry County, Oregon. Mrs. John Cresswell.

5376. **Spoon,** made of bone, found near Chetco, Curry County, Oregon. Mrs. John Cresswell.

5377. **Shuttle,** or implement used in the manufacture of cloth; made of bone; four specimens. Mrs. John Cresswell.

5378. **Arrow Heads of Chalcedony;** six varieties; found near Chetco, Curry County, Oregon. Mrs. John Cresswell.

5379. **Orthis fissicosta** (Hall), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5380. **Rhynchonella capax** (Conrad), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5381. **Calymene senaria** (see No. 1312), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5382. **Multiculipora gracilis** (James), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5383. **Trematis millipunctata** (Hall), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5384. **Ambonychia radiata** (Hall), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5385. **Hippothoa inflata** (Hall), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5386. **Monticulipora daleii** (Ed. and H.), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5387. **Monticulipora ulrichi** (Nich), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5388. **Streptilaspa corniculum** (Hall), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5389. **Orthis multisecta** (James), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5390. **Stellipora antheloidea**, Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5391. **Tetradium minus** (?) (Safford), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5392. **Alveolatus granulosus** (James), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5393. **Pterinea insueta** (?) (Con.), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5394. **Protarea vetusta** (Ed. and H.), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5395. **Atrypa reticulata**, Upper Silurian Fossil, Clinton Group, Cherry Valley, New York.

5396. **Calymene calicephala** (Green), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5397. **Monticulipora petripoliana** (?), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5398. **Glyptocrinus decadactilus** (Hall), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5399. **Climacograptus bicornis** (Hall), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5400. **Orthis biforata,** Lower Silurian Fossil, Trenton, New Jersey.

5401. **Monticulipora clavicoides** (James), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5402. **Monticulipora ramosa** (D. Orb), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5403. **Schizocrania filosa** (Hall), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5404. **Leptanea sericea** (Low), Lower Silurian Fossil, (see No. 3633), Cincinnati Group, Cincinnati, Ohio.

5405. **Monticulipora clathratula** (James), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

5406. **Pentremites godoni** (P. florealis), Carboniferous Fossil, Kaskaskia Group, Warren County, Kentucky. Melville Attwood.

5407. **Calymene blumenbachi,** Upper Silurian Fossil, Niagara Group, New York.

5408. **Athyris lamellosus,** Lower Carboniferous Fossil, Keokuk Group, Crawfordville, Indiana.

5409. **Aulipora gigas,** Lower Carboniferous Fossil, Keokuk Group, Crawfordville, Indiana.

5410. **Fossil Vertebra** (species unknown), Bitterwater Ranch, San Benito County, California. Hon. J. H. Matthews.

5411. **Diatomaceous Earth,** Bitterwater Ranch, San Benito County, California. Hon. J. H. Matthews.

5412. **Limestone** (marble), Bitterwater Ranch, San Benito County, California. Hon. J. H. Matthews.

5413. **Rock Specimen** (jaspery metamorphic), Coal Mine, San Benito County, California, Township 19 south, Range 11 east.

5414. **Rock Specimen** (metamorphic), Coal Mine, San Benito County, California, Township 19 south, Range 11 east.

5415. **Gypsum**, of good quality, Bitterwater Ranch, San Benito County, California.

5416. **Rock Specimen** (conglomerate), Coal Mine, San Benito County, California, Township 19 south, Range 11 east.

5417. **Sandstone** (coarse grained), Coal Mine, San Benito County, California, Township 19 south, Range 11 east.

5418. **Sandstone** (fine grained), Coal Mine, San Benito County, California, Township 19 south, Range 11 east.

5419. **Rock Specimen** (not determined), Coal Mine, San Benito County, California, Township 19 south, Range 11 east.

5420. **Rock Specimen** (not determined), Coal Mine, San Benito County, California, Township 19 south, Range 11 east.

5421. **Semi-Lignite**, Gold Gravel Hydraulic Mine, Laporte, Plumas County, California. G. W. Swan.

5422. **Lignite**, Gold Gravel Hydraulic Mine, Laporte, Plumas County, California. G. W. Swan.

5423. **Conglomerate** (coarse), cemented by iron pyrites; Gold Gravel Hydraulic Mine, Laporte, Plumas County, California. G. W. Swan.

5424. **Conglomerate** (fine grained), cemented by iron pyrite; Gold Gravel Hydraulic Mine, Laporte, Plumas County, California. G. W. Swan.

5425. **Conglomerate** (coarse grained), cemented by oxide of iron; Gold Gravel Hydraulic Mine, Laporte, Plumas County, California. G. W. Swan.

5426. **Impure Limonite after Pyrite,** Gold Gravel Hydraulic Mine, Laporte, Plumas County, California. G. W. Swan.

5427. **Tufa** (?), very interesting formation, Gold Gravel Hydraulic Mine, Laporte, Plumas County, California. G. W. Swan.

5428. **Pyrite Nodules,** Gold Gravel Hydraulic Mine, Laporte, Plumas County, California. G. W. Swan.

5429. **Concretions,** Gold Gravel Hydraulic Mine, Laporte, Plumas County, California. G. W. Swan.

5430. **Quartz Pebbles,** Gold Gravel Hydraulic Mine, Laporte, Plumas County, California. G. W. Swan.

5431. **Red Jasper Pebbles,** Gold Gravel Hydraulic Mine, Laporte, Plumas County, California. G. W. Swan.

5432. **Pebbles of Metamorphic Rock,** Gold Gravel Hydraulic Mine, Laporte, Plumas County, California. G. W. Swan.

5433. **Concentrations,** from Thomas and Reed's Mine, Poor Man's Creek, Plumas County, California. G. W. Swan.

5434. **Chrysocolla and Malachite in Alternate Layers,** Surface Botryoidal, and coated with Malachite, Engel's Copper Mine, Light's Cañon, Plumas County, California. H. A. Engels.

5435. **Erubescite** (Bornite), Engel's Copper Mine, Light's Cañon, Plumas County, California. H. A. Engels.

5436. **Fossil** (undetermined), Black Cañon, Thompson's River, British Columbia. W. D. Patterson, C.E.

5437. **Head of White Whale** (Beluga, N. Sp.), taken in Cook's Inlet, Alaska, by Captain L. N. Herrendeen, the donor.

This animal is described in Captain Charles M. Scammon's work on the Marine Mammals of North America, folio 93, which see.

5438. **Walnut** (Juglans californica), California wood. H. S. Durden.

5439. **Chestnut Oak** (Quercus densiflora), California wood. H. S. Durden.

5440. **Red Fir** (Abies nobilis), California wood. H. S. Durden.

5441. **Yellow Pine** (Pinus ponderosa), California wood. H. S. Durden.

5442. **Arbor Vitæ** (Thuya gigantea), California wood. H. S Durden.

5443. **White Fir** (Abies concolor), California wood. H. S. Durden.

5444. **Redwood** (Sequoia sempervirens), California wood. H. S. Durden.

5445. **Redwood** (Sequoia sempervirens), California wood. H. S. Durden.

5446. **Redwood** (Sequoia sempervirens), California wood, cut from one of the original timbers of the first building erected in the County of San Francisco, September 18, 1776. H. S. Durden.

5447. **Laurel** (Oreodaphne californica), California wood. H. S. Durden.

5448. **Laurel** (Oreodaphne californica), California wood. H. S. Durden.

5449. **Toyon** (Heteromeles arbutifolia), California wood. H. S. Durden.

5450. **Toyon** (root), (Heteromeles arbutifolia), California wood. H. S. Durden.

5451. **Buckeye** (Æsculus californica), California wood. H. S. Durden.

5452. **Buckeye** (Æsculus californica), California wood. H. S. Durden.

5453. **Wild Coffee** (Rhamnus californica), California wood. H. S. Durden.

5454. **Wild Coffee** (Rhamnus crocea), California wood. H. S. Durden.

5455. **Monterey Pine** (Pinus insignis), California wood. H. S. Durden.

5456. **Blue Douglass Oak** (Quercus douglassii), California wood. H. S. Durden.

5457. **Field Live Oak** (Quercus agrifolia), California wood. H. S. Durden.

5458. **Manzanita** (Arctostaphylos pungens), California wood. H. S. Durden.

5459. **Nutmeg** (Torreya californica), California wood. H. S. Durden.

5460. **Post Oak** (Quercus garryana), California wood. H. S. Durden.

5461. **Willow** (Salix longifolia) California wood. H. S. Durden.

5462. **White Pine** (Pinus monticola), California wood. H. S. Durden.

5463. **Satin Tassel** (Garrya eliptica), California wood. H. S. Durden.

5464. **Sycamore** (Platanus racemosa), California wood. H. S. Durden.

5465. **Willow** (Salix lasiolepis), California wood. H. S. Durden.

5466. **Black Oak** (Quercus kelloggii), California wood. H. S. Durden.

5467. **Sugar Pine** (Pinus lambertiana), California wood. H. S. Durden.

5468. **Poison Oak** (Rhus diversiloba), California wood. H. S. Durden.

5469. **Myrtle** (Myrica californica), California wood. H. S. Durden.

5470. **Mountain Lilac** (Ceanothus thyrsiflorus), California wood. H. S. Durden.

5471. **Maple** (Acer macrophyllum), California wood. H. S. Durden.

5472. **Lawson's Cypress,** Port Orford cedar or ginger pine (Chamœcyparis lawsoniana), California wood. H. S. Durden.

5473. **Silver Spruce** (Abies williamsonii), California wood. H. S. Durden.

5474. **Madrona** (Arbutus menziesii), California wood. H. S. Durden.

5475. **Madrona** (root), (Arbutus menziesii), California wood. H. S. Durden.

5476. **Hazel** (Corylus rostrata), California wood. H. S. Durden.

5477. **Manzanita** (root), (Arctostaphylos tomentosa), California wood. H. S. Durden.

5478. **Mesquite** (Prosopis pubescens), California wood. H. S. Durden.

5479. **Elder** (Sambucus glauca), California wood. H. S. Durden.

5480. **Ash** (Fraxinus oregana), California wood. H. S. Durden.

5481. **Alder** (Alnus rubra), California wood. H. S. Durden.

5482. **Huckleberry** (Vaccinium ovatum), California wood. H. S. Durden.

5483. **Douglass Spruce** (Oregon Pine), (Abies douglassii), California wood. H. S. Durden.

5484. **Yew** (Taxus brevifolia), California wood. H. S. Durden.

5485. **Mountain Mahogany** (Cercocarpus parvifolia), California wood. H. S. Durden.

5486. **Monterey Cypress** (Cupressus metrocarpus), California wood. H. S. Durden.

5487. **Chinquapin** (Castanopsis chrysophylla), California wood. H. S. Durden.

5488. **Incense Cedar** (Libocedrus decurrens), California wood. H. S. Durden.

5489. **Rhododendron** (Rhododendron californicum), California wood. H. S. Durden.

5490. **Redwood** (Sequoia sempervirens), California wood. A. Germon & Co.

5491. **Chinese Vase,** cut from a solid piece of blue Agalmatolite, or Figure Stone. J. Z. Davis.

5492. **Chinese Vase,** cut from a solid piece of Agalmatolite, or Figure Stone. J. Z. Davis.

5493. **Chinese Figure, or Idol on Dolphin,** of Red Figure Stone, base nearly Black Stone. J. Z. Davis.

5494. **Chinese Carved Figure,** Agalmatolite of two colors; figure on grotesque representation of a Frog; base, Red Color. J. Z. Davis.

5495. **Chinese Grotesque Figure of a Dog,** in Greenish Figure Stone. J. Z. Davis.

5496. **Chinese Carved Figure of Dog,** in Pale Green Figure Stone, on Black base of wood. J. Z. Davis.

5497. **Chinese Carved Grotesque Figure of an Ox,** in Orange colored Figure Stone, on base of Black Wood. J. Z. Davis.

5498. **Carved Chinese Dish,** in the shape of a Leaf, surface beautifully carved; cut from a single piece of Brown Figure Stone. J. Z. Davis.

5499. **Small Vessel Cut in Greenish Figure Stone,** with inscription in Chinese. J. Z. Davis.

5500. **Small Vessel Cut in Greenish Figure Stone,** and engraved with a Chinese inscription. J. Z. Davis.

5501. **Small Chinese Ornamental Vessel of Green Earthernware,** on base. J. Z. Davis.

5502. **Small Chinese Ornamental Vessel** (Hexagonal), of earthernware, with lizard on rim; no base. J. Z. Davis.

5503. **Cup,** with handle and saucer, cut from solid Agal matolite, of amber color, carved with Chinese characters and of Chinese workmanship. J. Z. Davis.

5504. **Circular Tea Tray of Chinese workmanship,** cut from solid amber-colored Figure Stone. J. Z. Davis.

5505. **Teapot,** very thick and solid, cut from yellowish-green stone, with Chinese inscription. J. Z. Davis.

5506. **Milk Pitcher,** very thick, cut from yellowish-green stone. Chinese. J. Z. Davis.

5507. **Sugar Bowl,** very thick, cut from yellowish-green stone, with Chinese inscription. J. Z. Davis.

5508. **Chinese Ink,** called also "India Ink," covered with Chinese characters, which, although in relief from a mold, are beautifully sharp and perfect, and will bear close inspection with a magnifying glass. J. Z. Davis.

5509. **Slab of Black Stone,** with sculptured ornament, upon which ink (No. 5508) is rubbed with water for use, with case of dark wood; Chinese manufacture. J. Z. Davis.

5510. **Pens,** used by the Chinese in writing; they are small brushes. J. Z. Davis.

5511. **Chinese Lock,** made of wood and brass. J. Z. Davis.

5512. **Chinese Padlock,** of brass. J. Z. Davis.

5513. **Wooden Comb,** of Chinese manufacture. J. Z. Davis.

5514. **Horn Spoon and Brush,** used for the toilet, Chinese manufacture. J. Z. Davis.

5515. **Small Brush,** of coarse hair, stained two colors, with forceps or pincers, used by the Chinese for the toilet. J. Z. Davis.

5516. **Scissors,** of Chinese make. J. Z. Davis.

5517. **Chinese Scale or Balance,** made on the principle of the steelyard, in wooden case. J. Z. Davis.

The graduation is on a beam of ivory, divided into tenths and fiftieths; the pan is of brass. This is really a delicate and useful balance, and could be utilized in assaying.

5518. **Chinese Pillow of Whalebone,** so constructed that it can be folded and made to occupy a small space. J. Z. Davis.

5519. **Turtle in Bronze,** Japanese manufacture. J. Z. Davis.

5520. **Turtle in Bronze,** Japanese manufacture. J. Z. Davis.

5521. **Figure of a Cat in Bronze,** Japanese manufacture. J. Z. Davis.

5522. **Figure of a Snail in Bronze,** Japanese manufacture. J. Z. Davis.

5523. **Figure of a Lizard in Bronze,** Japanese manufacture. J. Z. Davis.

5524. **Figure of an Insect in Bronze,** Japanese manufacture. J. Z. Davis.

5525. **Figure of an Insect in Bronze,** Japanese manufacture. J. Z. Davis.

5526. **Figure of an Insect in Bronze,** Japanese manufacture. J. Z. Davis.

5527. **Figure of a Crab in Bronze,** Japanese manufacture. J. Z. Davis.

5528. **Bronze Image of the Japanese Goddess of Knowledge,** Japan. J. Z. Davis.

5529. **Bronze Image of "Beutue,"** the Goddess of Mercy of Japan. Presented by J. Z. Davis.

5530. **Mexican Stiletto,** found at the corner of Montgomery and Green Streets, San Francisco, in 1850. J. Z. Davis.

5531. **Chinese Box,** made from a joint of bamboo, elaborately carved. J. Z. Davis.

5532. **Wooden Plate,** engraved with figure of a bird, and inscription in Japanese. J. Z. Davis.

5533. **Enlarged Photograph of Dr. John B. Trask,** first State Geologist of California; appointed March 26, 1853; born, Roxbury, Massachusetts; died July 3, 1879; aged 55 years.

5534. **Enlarged Photograph of Professor J. D. Whitney,** second State Geologist of California; appointed April 21, 1860; survey discontinued in 1874.

5535. **Enlarged Photograph of William Gabb,** Paleontologist of the Geological Survey of the State, under Professor Whitney, during the years 1862 to 1864.

Author of the Triassic and Cretaceous Fossils, Vol. I, Paleontology of California, and the whole of Vol. 2. Died of consumption in Philadelphia, May 30, 1878.

5536. **Oil Painting of the Hon. Joseph Wasson.**

Born in Wayne County, Ohio, in 1841, and died at San Blas, Mexico, April 18, 1883. He was the direct cause of the founding of the State Mining Bureau. Representing the Counties of Mono and Inyo in the Assembly of the Twenty-third Legislature of California, he introduced the Act which established the Mining Bureau, approved April 16, 1880. This portrait was painted by Mr. P. L. Peters, of San Francisco, and was donated by him.

5537. **Copper Pan,** found imbedded 25 to 30 feet below the surface of the earth, above Horseshoe Bend, on the Merced River, by M. Shurtleff, in the year 1879. George E. Schenk.

5538. **Quartz Crystal,** very large and very fine; one end white, the other smoky. J. Z. Davis.

Total length, 13 inches; girth, 15 inches; width of widest face, 2¾ inches; weight, 14.5 pounds. Twenty miles north of Placerville, El Dorado County.

5539. **Wooden Fan,** elaborately and beautifully carved, China. J. Z. Davis.

5540. **Knife in Case,** Japan. J. Z. Davis.

5541. **Knife and Awl or Bodkin in case** made of bamboo; on the outside of which there is a measure, Japan. J. Z. Davis.

5542. **Volcanic Ash,** tufa or lava, Mono County, California, near C. and C. R. R. D. A. Bender.

5543. **Fine White Marble,** slightly bluish green, suitable for building stone and lime, Inyo County, near C. and C. R. R. D. A. Bender.

5544. **Kaolin,** crude, found near Daggett Station, San Bernardino County, California. Hon. John Daggett.

Mr. Daggett believes it to be the result of the decomposition of a feldspathic rock (No. 5546), which occurs in great abundance. He thinks there is doubt as to its being found in quantity.

5545. **Kaolin** (No. 5544), cleaned by washing, found near Daggett Station, San Bernardino County, California. Hon. John Daggett.

5546. **Feldspathic Rock,** which seems to be decomposing into Kaolin (No. 5544), near Daggett Station, San Bernardino County, California. Hon. John Daggett.

5547. **Great Green Grasshopper** (decticus verrucivious), St. Augustine, Florida. J. Z. Davis.

5548. **South Florida Locust,** St. Augustine, Florida. J. Z. Davis.

5549. **Wooden Figure with face of Ivory,** Japan. J. Z. Davis.

5550. **Chinese Pipe.** J. Z. Davis.

5551. **Lignum Vitæ Wood** (guaiacum officinale), Mexico. Cross section.

5552. **Redwood** (Sequoia sempervirens), Mendocino County, California.

5553. **Cocoanut Palm** (Cocus nucifera), Samaon Islands.

5554. **Cocoanut Palm** (Cocus nucifera), Samoan Islands. Cross section.

5555. **Tamanu Wood** (Calophyllum inophyllum), Tahiti. Cross section.

5556. **Sandal Wood** (Santalum album), Marquesas Islands.

5557. **Iron Wood** (Casurina equesitifolia), Tahiti.

5558. **Red Cedar** (Libocedrus decurrens), Placer County, California.

5559. **Camphor Wood** (Camphora officinarum), China.

5560. **Teak Wood** (Tectonia grandis), India.

5561. **Teak Wood** (Tectonia grandis), India. Cross section.

5562. **Manzanita Wood** (Arctostaphylos), California.

5563. **Oleria Traversii,** New Zealand, buried in the ground 22 years; taken up in 1875.

5564. **Meo Wood,** Marquesas Islands.

5565. **Remu,** Red Pine (Dacrydium cupressium), New Zealand.

5566. **Remu,** Red Pine (Dacrydium cupressium). Cross section, New Zealand.

5567. **Remu,** Red Pine (Dacrydium cupressium). Mottled, New Zealand.

5568. **Red Gum** (Eucalyptus resinifera), Australia.

5569. **Totora** (Podocarpus totora), New Zealand.

5570. **Schizothœrus nuttalli** (Con.), Post Pliocene Tertiary Fossil, San Pedro, California (Pale. Cal. 2–91). Mrs. A. E. Bush.

5571. **Fragment of Tusk of Elephant,** Post Pliocene Tertiary Fossil, San Pedro, California. Mrs. A. E. Bush.

5572. **Nassa fossata,** Post Pliocene Tertiary Fossil, San Pedro, California (Pale. Cal. 2–74). Mrs. A. E. Bush.

5573. **Cardium cooperii,** Post Pliocene Tertiary Fossil, San Pedro, California (Pale. Cal. 2–242). Mrs. A. E. Bush.

5574. **Model of Chinese Coffin in Sandal Wood** (Santalum album). J. Z. Davis.

5575. **Psephis** (sp?), Post Pliocene Tertiary Fossil, San Pedro, California. Mrs. A. E. Bush.

5576. **Lunatia** (sp?), Post Pliocene Tertiary Fossil, San Pedro, California. Mrs. A. E. Bush.

5577. **Littorina** (sp?), Post Pliocene Tertiary Fossil, San Pedro, California. Mrs. A. E. Bush.

5578. **Pecten hastatus,** Post Pliocene Tertiary Fossil, San Pedro, California (Pale. Cal. 2–104). Mrs. A. E. Bush.

5579. **Nassa cooperii,** Post Pliocene Tertiary Fossil, San Pedro, California (Pale. Cal. 2–47). Mrs. A. E. Bush.

5580. **Purpura crispata,** Post Pliocene Tertiary Fossil, San Pedro. Mrs. A. E. Bush.

5581. **Nassa** (sp?), Post Pliocene Tertiary Fossil, San Pedro, California. Mrs. A. E. Bush.

5582. **Mitra** (sp?), Post Pliocene Tertiary Fossil, San Pedro, California. Mrs. A. E. Bush.

5583. **Crepidula rugosa,** Post Pliocene Tertiary Fossil, San Pedro, California. Mrs. A. E. Bush.

5584. **Solecurtus californianus,** Post Pliocene Tertiary Fossil, San Diego, California. Mrs. A. E. Bush.

5585. **Margarita** (sp?), Post Pliocene Tertiary Fossil, San Pedro, California. Mrs. A. E. Bush.

5586. **Pecten** (sp?), Post Pliocene Tertiary Fossil, San Pedro, California. Mrs. A. E. Bush.

5587. **Conus californicus,** Post Pliocene Tertiary Fossil, San Pedro, California (Pale. Cal. 2–78). Mrs. A. E. Bush.

5588. **Drillia penicillata,** Post Pliocene Tertiary Fossil, San Pedro, California. Mrs. A. E. Bush.

5589. **Dentalium** (sp?), Post Pliocene Tertiary Fossil, San Pedro, California. Mrs. A. E. Bush.

5590. **Scurria mitra,** Post Pliocene Tertiary Fossil, San Pedro, California (Pale. Cal. 2–87). Mrs. A. E. Bush.

5591. **Turritella cooperii,** Post Pliocene Tertiary Fossil, San Pedro, California (Pale. Cal. 2–80). Mrs. A. E. Bush.

5592. **Portion of a Large Milky Quartz Crystal,** ten miles from Tucson, Arizona.

There are several peculiarities about this crystal worthy of notice, but which would be overlooked if attention was not called to them. On all the pyramidal facets there are slightly raised plates or projections in the form of isosceles triangles, with the points all trending upward. It is a curious fact that diamonds have been found in California similarly marked. The broken end has been acted upon, probably by solution, until the whole face is crystalline. This crystal is well worthy of study.

5593. **Mechanical Analysis of Kaolin,** from San Bernardino County, near Daggett Station (see No. 5544), portion purified by washing. 85.45 per cent.

5594. **Mechanical Analysis of Kaolin** (No. 5544), coarser impurities. 7.21 per cent.

5595. **Mechanical Analysis of Kaolin** (No. 5544), finer impurities. 7.34 per cent.

5596. **Red Jasper,** polished, three specimens, hills end of Rannall Street, San Francisco.

This Jasper is probably metamorphic, silicious, and ferruginous mud, and is found in great abundance on the hills. The polish of the specimens shows that it is unfit for ornamental purposes, which would otherwise be inferred from its appearance in the rough state.

5597. **Red Jasper** (see 5596), showing a naturally polished surface, first thought to be caused by a glacier, but closer inspection leads to the opinion that it is caused by movement of the mass when in a soft state (slickensides).

The large blocks upon which it is found seem to be "Erratics," some of the faces bear a striking resemblance to those polished by glaciers. Found on the hills back of San Francisco. Drifting sand may possibly have caused the polish.

5598. **Angular Fragments of Jasper,** found in the railroad cut, Southern Pacific Railroad, just beyond Rannall Street, San Francisco, in a large deposit without stratification, and resembling the morraine of a glacier. It is difficult to account for this formation by any other theory.

5599. **Breccia of Red Jasper** in white quartz, hills back of San Francisco.

5600. **Veneer,** cut from a projection near the roots of a redwood tree (Sequoia sempervirens), called technically a "burl." Donated by A. Germon & Co., and polished gratuitously by William Proll.

5601. **Rock Formation,** found near Campo Seco, Calaveras County, with section for microscope. Analysis by W. D. Johnston.

Silica	72.00
Alumina	26.20
Lime	.51
Iron, sesquioxide	.60

Alfred W. Morgenstern; the analysis and section are from the small piece; the larger one is softer.

5602. **Red Coral** (Tubipora musica), Red Sea. J. Z. Davis.

5603. **Chinese Compass and Sun Dial** (see No. 5350). J. Z. Davis.

5604. **Reticule,** seed work by the natives of the South Sea Islands. J. Z. Davis.

5605. **Belt,** seed work by the natives of the South Sea Islands. J. Z. Davis.

5606. **Necklace,** seed work by the natives of the South Sea Islands. J. Z. Davis.

5607. **Double Dagger from India,** said to be used by the Sheiks and Thugs of that country; handle of brass, on which are two elephants. J. Z. Davis.

5608. **Sand impregnated with Asphalt,** and sand separated from it, Coast Range, seven miles northwest of Santa Cruz. C. Mason Kinne.

Sand	80.2
Asphalt	19.8
	100.0

Sand angular of milky transparent quartz. This mineral has been distilled for the oil it contains, but which could not compete with eastern oil; it is used, also, for pavements, without preparation.

5609. **Indian Pestle,** found near Sargent, Santa Clara County. C. H. Goodhue.

5610. **Palm Wood (?) silicified,** with microscopic section, from North Bloomfield Hydraulic Mine, Nevada County, California.

The silicified woods found in the auriferous gravels of the State are generally conifers, and under the microscope show characteristic dotted ducts. This is the first instance where a palm has been found silicified.

5611. **Soft, nearly White Sandstone,** imported to San Francisco from New Zealand, and used in building in this city. Bugbee.

The building, No. 337 Bush Street, is of brick, with caps and sills of this stone. It may be durable, but it is too soft to be a perfect building stone; besides which, we have better in the State.

5612. **Abacus,** called by the Chinese Shwanpan. It is much used by the Chinese, and by it computations are made with great rapidity and accuracy. J. Z. Davis.

5613. **Hemlock Spruce** (Tsuga mertensiana), California wood. H. S. Durden.

5614. **Thorn** (Cratœgus rivularis), California wood. H. S. Durden.

5615. **Chamiso** (Adenostoma fasciculatum), California wood. H. S. Durden.

5616. **White Flowered Lilac** (Ceanothus divaricatus), California wood. H. S. Durden.

5617. **Poplar** (Populus trichocarpa), California wood. H. S. Durden.

5618. **Cornel** (Cornus nuttallii), California wood. H. S. Durden.

5619. **"Big Tree"** (Sequoia gigantea), California wood. H. S. Durden.

5620. **Box Elder** (Negundo californica), California wood. H. S. Durden.

5621. **Tamanu** (Calophyllum inophyllum), Tahiti. H. S. Durden.

5622. **Koa,** Sandwich Islands. H. S. Durden.

5623. **Primavera, or Tepe Zapote,** Mexican wood. H. S. Durden.

5624. **Rosewood,** Mexican wood. H. S. Durden.

5625. **Cocobolo,** Mexican wood. H. S. Durden.

5626. **Norfolk Island Pine** (Auracania excelsa), cross section. H. S. Durden.

5627. **Live Oak** (Quercus virens), cut from one of the timbers of the United States man-of-war Kearsarge. H. S. Durden.

5628. **Black Mesquite**, Mexican wood. H. S. Durden.

5629. **Olivewood**, from the Mission San Fernando. H. S. Durden.

5630. **Orangewood**, Los Angeles. H. S. Durden.

5631. **Egg of Ostrich** (Struthio sp ?), from the ostrich farm near Anaheim. J. Z. Davis.

5632. **Egg of Emu** (Dromaius novœ hollandiæ), South Australia. J. Z. Davis.

5633. **Liquid Asphalt, or Maltha**, Tar Creek, near Sargent, Santa Clara County, California.

This substance flows from the earth in many places and hardens into solid asphalt (see No. 5634); specific gravity, 1.143.

5634. **Asphaltum**, called by the Mexicans "Brea," Spanish for "pitch," found in large quantities at Tar Creek, near Sargent, Santa Clara County, California. It results from the inspissation of the liquid (No. 5633).

5635. **Block of Asphaltum**, refined from No. 5634 by heating and straining, used for street pavements, roofs, etc., Tar Creek, near Sargent, Santa Clara County, California.

5636. **Asphaltum**, refuse in refining crude material (No. 5634), Tar Creek, near Sargent, Santa Clara County, California.

5637. **Asphaltum**, free from sand, and otherwise nearly pure; natural result of inspissation of liquid asphalt or maltha (No. 5633). This mineral resembles the purest asphalt from Trinidad, or the Dead Sea; specific gravity, 1.15, Tar Creek, near Sargent, Santa Clara County, California.

5638. **Asphalt** (Brea), found in large quantities at Petrolia, Section 5, Township 3 south, Range 9 west, seven miles from Anaheim, Los Angeles County, California.

5639. **Liquid Asphalt or Maltha,** from one of the oil wells at Petrolia, Section 5, Township 3 south, Range 9 west, seven miles from Anaheim, Los Angeles County, California; specific gravity, .969.

5640. **Liquid Asphalt or Maltha,** from the Puente oil wells, Section 1, Township 3 south, Range 10 west, seven miles from Anaheim, Los Angeles County, California; specific gravity, .920.

5641. **Petroleum,** crude oil, green oil, specific gravity, .795, from a well on Tunitas Creek, San Mateo County, California, Section 25, Township 6 south, Range 5 west. In April, 1884, several barrels per day were being pumped.

5642. **Petroleum,** crude oil, specific gravity .830, from Pico Cañon, near Newhall, Los Angeles County, California.

This sample was drawn from the end of the main pipe line at the refinery at Newhall, and is the oil which is being sent by the railroad, both north and south, in large quantities.

5643. **Refined Petroleum** (coal oil), specific gravity .797, refined at Newhall, Los Angeles County, California, from crude oil (No. 5642.)

5644. **Seaweed** (Delesseria decipiens J. Ag.), Pescadero beach, San Mateo County, California. Prepared and presented by Mrs. G. W. Swanton.

5645. **Saxidomus gibbosus,** Gabb, Pliocene (Pale. Cal. vol. 2, folio 58), found in the bed of Tunitas Creek at Lobitas, associated with petroleum, San Mateo County, California.

5646. **Priceite,** variety Pandermite after Ulexite, showing the change from a "cotton ball," Death Valley, Inyo County, California.

This specimen is referred to in the Third Annual Report of the State Mineralogist, part 2, folio 85.

5647. **Tapes staleyi** (Gabb.), Pliocene Tertiary Fossil, found with asphaltum at Sargent, Santa Clara County, California.

5648. **Pecten pabloensis** (Con.), Miocene Tertiary Fossil (Pacific Railroad Reports, vol. 2, p. 71); creek at Lobitas, and at the petroleum wells above, San Mateo County, California.

5649. **Arca microdonta** (Con.), Miocene Tertiary Fossil (Pale. Cal., vol. 2, folio 121), found with asphaltum at Sargent, Santa Clara County, and with petroleum in the bed of Tunitas Creek, San Mateo County, California.

5650. **Crassatella collina** (Con.), Miocene Tertiary Fossil (Pacific Railroad Reports, vol. 5, folio 193). Found associated with asphaltum at Sargent, Santa Clara County, California.

5651. **Lucina borealis** (Linn.), Pliocene Tertiary Fossil, Snow's well, with petroleum, Petrolia, Los Angeles County, California.

5652. **Colemanite,** in magnificent crystals. Colemanite is a new variety of Priceite (see No. 157), borate of lime.

For description of Colemanite see Third Annual Report of the State Mineralogist, part 2, fol. 86. Presented by H. H. Buckles, Mohave, Kern County. The specimen is from near Calico, San Bernardino County, California.

5653. **Cyathophyllum turbinnatum,** Devonian Fossil, Gerolstein, Eifel, Germany.

5654. **Alveolites suborbicularis,** Devonian Fossil, Gerolstein, Eifel, Germany.

5655. **Cyathophyllum quadrigeminum,** Devonian Fossil, Gerolstein, Eifel, Germany.

5656. **Cyathophyllum helianthoides,** Devonian Fossil, Gerolstein, Eifel, Germany.

5657. **Cyathophyllum vermiculare,** Devonian Fossil, Gerolstein, Eifel, Germany.

5658. **Cyathophyllum zoides,** Devonian Fossil, Gerolstein, Eifel, Germany.

5659. **Aulopora repens,** Devonian Fossil, Gerolstein, Eifel, Germany.

5660. **Favosites polymorpha,** Devonian Fossil, Gerolstein, Eifel, Germany.

5661. **Monticulipora fibrosa,** Devonian Fossil, Gerolstein, Eifel, Germany.

5662. **Calceola sandalina,** Devonian Fossil, Gerolstein, Eifel, Germany.

5663. **Calamapora goldfussi,** Devonian Fossil, Gerolstein, Eifel, Germany.

5664. **Eucalyptocrinus rosaceus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5665. **Rhodocrinus crenatus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5666. **Poteriocrinus geometricus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5667. **Symbatocrinus tabulatus var. alta,** Devonian Fossil, Gerolstein, Eifel, Germany.

5668. **Melocrinus typus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5669. **Lophocrinus speciosus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5670. **Goniatites auris,** Devonian Fossil, Gerolstein, Eifel, Germany.

5671. **Goniatites retrorsus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5672. **Goniatites intumescens,** Devonian Fossil, Gerolstein, Eifel, Germany.

5673. **Xenocidaris clavigera,** Devonian Fossil, Gerolstein, Eifel, Germany.

5674. **Orthoceras regulare,** Devonian Fossil, Gerolstein, Eifel, Germany.

5675. **Acroculia prisca,** Devonian Fossil, Gerolstein, Eifel, Germany.

5676. **Strophomena explanata,** Devonian Fossil, Gerolstein, Eifel, Germany.

5677. **Spirifer macropterus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5678. **Spirifer undiferus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5679. **Spirifer lævicosta,** Devonian Fossil, Gerolstein, Eifel, Germany.

5680. **Spirifer speciosus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5681. **Spirifer vernenili,** Devonian Fossil, Gerolstein, Eifel, Germany.

5682. **Spirifer cultrijugatus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5683. **Spirifer urii,** Devonian Fossil, Gerolstein, Eifel, Germany.

5684. **Rhynchonella wahlenbergi,** Devonian Fossil, Gerolstein, Eifel, Germany.

5685. **Rhynchonella parallelepipeda,** Devonian Fossil, Gerolstein, Eifel, Germany.

5686. **Rhynchonella tetratoma,** Devonian Fossil, Gerolstein, Eifel, Germany.

5687. **Rhynchonella primipilaris,** Devonian Fossil, Gerolstein, Eifel, Germany.

5688. **Camarophora formosa,** Devonian Fossil, Gerolstein, Eifel, Germany.

5689. **Camarophora microrhymba,** Devonian Fossil, Gerolstein, Eifel, Germany.

5690. **Atrypa latilinguis,** Devonian Fossil, Gerolstein, Eifel, Germany.

5691. **Atrypa reticularis,** Devonian Fossil, Gerolstein, Eifel, Germany.

5692. **Atrypa aspera,** Devonian Fossil, Gerolstein, Eifel, Germany.

5693. **Atrypa squamifera,** Devonian Fossil, Gerolstein, Eifel, Germany.

5694. **Atrypa concentrica,** Devonian Fossil, Gerolstein, Eifel, Germany.

5695. **Atrypa reticularis var. zonata,** Devonian Fossil, Gerolstein, Eifel, Germany.

5696. **Pentamerus galeatus var. multistriatus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5697. **Merista plebeia,** Devonian Fossil, Gerolstein, Eifel, Germany.

5698. **Chonetes tennicosta,** Devonian Fossil, Gerolstein, Eifel, Germany.

5699. **Chonetes minuta,** Devonian Fossil, Gerolstein, Eifel, Germany.

5700. **Chonetes dilatata,** Devonian Fossil, Gerolstein, Eifel, Germany.

5701. **Retzia feritia,** Devonian Fossil, Gerolstein, Eifel, Germany.

5702. **Cyrtia heteroglypha,** Devonian Fossil, Gerolstein, Eifel, Germany.

5703. **Uncites gryphus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5704. **Stringocephalus burtini,** Devonian Fossil, Gerolstein, Eifel, Germany.

5705. **Orthis canaliculatus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5706. **Orthis opercularis,** Devonian Fossil, Gerolstein, Eifel, Germany.

5707. **Orthis striatula,** Devonian Fossil, Gerolstein, Eifel, Germany.

5708. **Orthis umbraculum,** Devonian Fossil, Gerolstein, Eifel, Germany.

5709. **Orthis eifliensia,** Devonian Fossil, Gerolstein, Eifel, Germany.

5710. **Anoplodeca lepida,** Devonian Fossil, Gerolstein, Eifel, Germany.

5711. **Leptæena depressa,** Devonian Fossil, Gerolstein, Eifel, Germany.

5712. **Leptæena irregularis,** Devonian Fossil, Gerolstein, Eifel, Germany.

5713. **Leptæena lepis,** Devonian Fossil, Gerolstein, Eifel, Germany.

5714. **Leptæena transversalis,** Devonian Fossil, Gerolstein, Eifel, Germany.

5715. **Leptæena tetragona,** Devonian Fossil, Gerolstein, Eifel, Germany.

5716. **Leptæena subtransversa,** Devonian Fossil, Gerolstein, Eifel, Germany.

5717. **Cardiola retrostriata,** Devonian Fossil, Gerolstein, Eifel, Germany.

5718. **Pentamerus globus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5719. **Megalodon enculatus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5720. **Buccinum (Macrocheilus) arculatum,** Devonian Fossil, Gerolstein, Eifel, Germany.

5721. **Belerophon trilobatus,** Devonian Fossil, Gerolstein, Eifel, Germany.

5722. **Murchisonia angulata,** Devonian Fossil, Gerolstein, Eifel, Germany.

5723. **Pleurotomaria crenato striata,** Devonian Fossil, Gerolstein, Eifel, Germany.

5724. **Phacops latifrons,** Devonian Fossil, Gerolstein, Eifel, Germany.

5725. **Homalonotus crassicanda,** Devonian Fossil, Gerolstein, Eifel, Germany.

5726. **Cypridina serrato striata,** Devonian Fossil, Gerolstein, Eifel, Germany.

5727. **Pentatreniatites eifliensis,** Devonian Fossil, Gerolstein, Eifel, Germany.

5728. **Terebratula elongata,** Devonian Fossil, Grund, Hartz, Germany.

5729. **Terebratula prisca,** Devonian Fossil, Grund, Hartz, Germany.

5730. **Terebratula pugnus,** Devonian Fossil, Grund, Hartz, Germany.

5731. **Terebratula primipilaris,** Devonian Fossil, Grund, Hartz, Germany.

5732. **Terebratula semilaevis,** Devonian Fossil, Grund, Hartz, Germany.

5733. **Rhynchonella semilaevis,** Devonian Fossil, Grund, Hartz, Germany.

5734. **Spirifer deflexus,** Devonian Fossil, Grund, Hartz, Germany.

5735. **Spirifer bifidus,** Devonian Fossil, Grund, Hartz, Germany.

5736. **Rhynchonella cuboides,** Devonian Fossil, Grund, Hartz, Germany.

5737. **Venus prisca,** Devonian Fossil, Grund, Hartz, Germany.

5738. **Porcellia primordialis,** Devonian Fossil, Grund, Hartz, Germany.

5739. **Natica inflata,** Devonian Fossil, Grund, Hartz, Germany.

5740. **Turbo canaliculatus,** Devonian Fossil, Grund, Hartz, Germany.

5741. **Lithodendron caespitosum,** Devonian Fossil, Grund, Hartz, Germany.

5742. **Astræa basaltiformis,** Devonian Fossil, Grund, Hartz, Germany.

5743. **Asaphus zinckeni,** Devonian Fossil, Grund, Hartz, Germany.

5744. **Orthis beaumonti,** Devonian Fossil, Teroñes, Spain.

5745. **Terebratula hispanica,** Devonian Fossil, Teroñes, Spain.

5746. **Spirifer subspeciosus**, Devonian Fossil, Teroñes, Spain.

5747. **Spirifer pelico**, Devonian Fossil, Teroñes, Spain.

5748. **Spirigera subconcentrica**, Devonian Fossil, Teroñes, Spain.

5749. **Leptæena dutertrei**, Devonian Fossil, Teroñes, Spain.

5750. **Cyrthia hispanica**, Devonian Fossil, Teroñes, Spain.

5751. **Pentremidea pailleti**, Devonian Fossil, Teroñes, Spain.

5752. **Monticulipora goldfussi**, Devonian Fossil, Teroñes, Spain.

5753. **Cyathophyllum flexuosum**, Devonian Fossil, Teroñes, Spain.

5754. **Retepora Sp** (?), Devonian Fossil, Teroñes, Spain.

5755. **Orbitulites suborbiculare**, Devonian Fossil, Gerolstein, Eifel, Germany.

5756. **Favosites cervicornis**, Devonian Fossil, Gerolstein, Eifel, Germany.

5757. **Retzia dividua**, Devonian Fossil, Gerolstein, Eifel, Germany.

5758. **Posidonia bechi**, Devonian Fossil, Gerolstein, Eifel, Germany.

5759. **Spirifer arduenensis**, Devonian Fossil, Gerolstein, Eifel, Germany.

5760. **Corbis corrugata**, Cretaceous Fossil, Isle of Wight, England.

5761. **Hamites elatior** (Sow.), Cretacio-Tertiary Fossil, Isle of Quiriquina, Chile.

5762. **Gila monster** (Heloderma horridum), Tucson, Arizona. Charles R. Wores.

5763. **Artificial monster,** made by the Japanese to represent the fabulous mermaid. Presented by J. Z. Davis.

5764. **Vase of Alabaster,** Italy. J. Z. Davis.

5765. **Vase of Alabaster,** Italy. J. Z. Davis.

5766. **Vase of Alabaster,** Italy. J. Z. Davis.

5767. **Vase of Alabaster,** Italy. J. Z. Davis.

5768. **Roscoelite,** with gold, Section 7, Township 11 north, Range 10 east, El Dorado County, California (see second annual report of State Mineralogist, folio 262). Richard Sparling, Pilot Hill, El Dorado County, California.

5769. **Red Jasper,** Hathaway Gold Mine (croppings), Calaveras County, California. N. P. Sheldon.

5770. **Stibnite,** Section 30, Township 11 south, Range 7 east, Alta Antimony Mine, San Benito County, California (see Nos. 450, 690, 702, 4099). Samuel Ambrose.

5771. **Pebble Sand,** in which coal oil is found, Snow's Well, near Petrolia, Los Angeles County, California.

5772. **Soil,** Tehachipi Pass.

5773. **Soil,** from the cut made by the railroad at Newhall, Los Angeles County, California.

5774. **Borings,** from bottom of well No. 2, Petrolia, Los Angeles County, California.

5775. **Borings,** from a depth of 500 feet, Snow's Oil Well, Petrolia, Los Angeles County, California.

5776. **Sand,** from beach at Lobitas, San Mateo County, California.

5777. **Slickens,** from a Lake in Steep Hollow, near Chalk Bluffs.

5778. **Borings,** representing section of an oil well, Turenitas Creek, San Mateo County, California. H. W. Bodwell.

A, 90 feet; B, 130 feet; C, 140 feet; D, 150 feet; E, 160 feet; F, 170 feet; G, 200 feet; H, 220 feet; I, 234 feet; J, 256 feet; K, 280 feet; L, 290 feet; M, 300 feet; N, 320 feet; O, 356 feet; P, 360 feet; Q, 364 feet; R, 382 feet; S, 386 feet; T, 390 feet; U, 398 feet; V, 403 feet; W, 431 feet; X, 460 feet; Y, 478 feet; Z, 484 feet; aa, 501 feet; bb, 508 feet; cc, 515 to 586 feet.

5779. **Samples of dry "Slickens,"** American River, Twelfth-Street Bridge, Sacramento, California.

5780. **Slickens,** American River, Sacramento, California.

5781. **Sand,** overlying 5780, American River, Sacramento, California.

5782. **Finely Divided Slickens,** American River, Sacramento, California.

5783. **Coarse Sand,** used for building purposes, American River, Twelfth-Street Bridge, Sacramento, California.

5784. **River Soil,** American River, Sacramento, California; used to fill up gardens.

5785. **Slickens,** Manzanita Mine, Nevada City, California.

5786. **Slickens,** North Bloomfield Mine, Nevada County, California.

5787. **Sedimentary Matter,** North Bloomfield Mine, Nevada County, California.

5788. **Sedimentary Matter,** North Bloomfield Mine, Nevada County, California.

5789. **Slickens,** North Bloomfield Mine, Nevada County, California.

5790. **Slickens,** North Bloomfield Mine, Nevada County, California.

5791. **Pipe-clay,** North Bloomfield Mine, Nevada County, California.

5792. **Pipe-clay,** North Bloomfield Mine, Nevada County, California.

5793. **Sand,** North Bloomfield Mine, Nevada County, California.

5794. **Slickens,** North Bloomfield Mine, Nevada County, California.

5795. **Coarse Sand,** from bank opposite Marysville, Yuba County, California.

5796. **Fine Sand,** from bank opposite Marysville, Yuba County, California.

5797. **Slickens,** Marysville, Yuba County, California.

5798. **Slickens,** Polar Star Mine, Dutch Flat, Placer County, California.

5799. **Alum,** sweats out of bed-rock at mouth of tunnel, Bonanza Mine, Gold Run, Placer County, California.

5800. **Stratified Sand,** 60 feet above bed-rock, Indiana Hill, Gold Run, Placer County, California.

5801. **Sedimentary Deposit,** Chalk Bluffs, near surface, containing impressions of fossil leaves.

5802. **Drillia moesta,** Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5803. **Drillia perversa** (Gabb.), Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5804. **Lunatia lewisii,** Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5805. **Liropecten volæformis,** Miocene Tertiary Fossil. Mount Hamilton, Santa Clara County, California. Mrs. A. E. Bush.

5806. **Crucibulum spinosum,** Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5807. **Lucina nuttalli,** Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5808. **Fusus ambustus** (Gld.), P. Pliocene, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5809. **Calliostoma canaliculatum** (Mart.), Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5810. **Pleurotoma tryoniana**, Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5811. **Chama exogyra**, Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5812. **Pachydesma crassatelloides** (Con.), Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5813. **Platyodon cancellatum**, Santa Cruz, Santa Cruz County, California. Mrs. A. E. Bush.

5814. **Ptychostylis caffea** (Gabb.), Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5815. **Dosinia ponderosa**, Post Pliocene Tertiary Fossil, San Diego, San Diego County, California. Mrs. A. E. Bush.

5816. **Dark Ash-gray Opaque Alabaster**, known as "Alabastro censrino," much resembling some marbles, Upper Miocene system, Apennine region, Annunziata Quarries, Volterra, Pisa, Italy.

5817. **Dark Ash-gray Opaque Alabaster**, traversed by paler ash-gray markings, known as "Alabastro censrino," Upper Miocene system, Apennine region, Annunziata Quarries, Volterra, Pisa, Italy.

5818. **Alabaster of Impure Nature**, consisting of spheroidal concretions, more or less the size of a pea, some opaque milk-white, others translucent-white, the intervals occupied by brownish-gray marly matter, called "Alabastro bardiglio-scuro," Upper Miocene system, Apennine region, near Volterra, Pisa, Italy.

This kind does not take a good polish, owing to the admixture of earthy impurities.

5819. **Opaque Grayish-white Alabaster,** the abundant interstices filled up with brownish-gray marly matter, Upper Miocene system, Apennine region, Annunziata Quarries, Volterra, Pisa, Italy.

Produces an excellent effect when employed for making basements, and other work of the kind, from its close resemblance to many ancient feldspathic rocks.

5820. **Opaque Grayish-white Alabaster,** with beautiful brownish-gray markings, closely resembling some varieties of gneiss, Upper Miocene system, Apennine region, Annunziata Quarries, Volterra, Pisa, Italy.

Its exact counterfeit of many feldspathic rocks of far greater hardness, renders it peculiarly adapted for basements of architectural models, etc.

5821. **Almost Opaque White Alabaster,** traversed in every direction by beautiful dark bluish-gray veins, termed "Alabastro bardiglio brizzolato," Upper Miocene system, Apennine region, Gesseri Quarries, Volterra, Pisa, Italy.

It is largely employed for sculpturing ornamental vases, and when polished produces a splendid effect.

5822. **Concretionary "Bardiglio" Alabaster,** with more or less translucent ground, and handsome brownish-gray reticulated veins. Upper Miocene system, Apennine region, Arriano Quarries, Pomerance, Pisa, Italy.

One of the most handsome colored alabasters of Italy.

5823. **Opaque Milk-white and somewhat Translucent Wax-white Alabaster,** with bold brownish-gray veins, Upper Miocene system, Apennine region, Gesseri Quarries, Volterra, Pisa, Italy.

A splendid ornamental stone, and known as "Alabastro bardiglio."

5824. **Impure Alabaster,** consisting of white concretionary masses, united by marly substances of brownish-gray tint, called "Alabastro bardiglio brizzolato," Upper Miocene system, Apennine region, Gesseri Quarries, Volterra, Pisa, Italy.

A very handsome ornamental stone for sculpturing large vases, etc.

5825. **Concretionary Opaque Alabaster,** with white ground and brownish yellow markings, and veins filling up the interstices, Upper Miocene system, Apennine region, Casabino Quarries, near Volterra, Pisa, Italy.

Called "Alabastro bardiglio rosso." A beautiful material for making the basements of ornamental vases, and similar work.

5826. **Opaque Yellowish-white Concretionary Alabaster,** the interstices filled up with more translucent alabaster, and dark brownish-gray marl, Upper Miocene system, Apennine region, near Volterra, Pisa, Italy.

A remarkably handsome material, polishing well.

5827. **Slightly Translucent, pale Yellowish-white Alabaster,** with honey-yellow veins; called "Alabastro giallo," Upper Miocene system, Apennine region, Pomerance, Pisa, Italy.

A delicate combination of tints of yellow, producing an excellent effect; used for vases, pedestals, etc.

5828. **Ivory-white and Milk-white Alabaster,** with honey-white markings, resembling agate, and known under the name of "Alabastro agata," Upper Miocene system, Apennine region, Terenzana Quarries, Montecatini di Val di Cecina, Pisa, Italy.

A favorite variety for sculpturing large vases and ornaments, being somewhat translucent, with bold harmonious markings.

5829. **Very Translucent Honey-white Alabaster,** of homogeneous appearance as seen by reflected light, but with striated markings as seen by transmitted light, Upper Miocene system, Apennine region, Annunziata Quarries, Volterra, Pisa, Italy.

An excellent ornamental stone, easily sculptured, known as "Alabastro agata chiaro."

5830. **Wax-white Alabaster,** very translucent and marked here and there by dark brownish-gray veins. By transmitted light it is seen to be traversed by numerous markings of slightly different whitish tint, Upper Miocene system, Apennine region, Annunziata Quarries, Volterra, Pisa, Italy.

5831. **White Semi-translucent Alabaster,** with markings of a different kind of white, imitating marble, Upper Miocene system, Apennine region, Pomerance, Pisa, Italy.

Known as "Alabastro marmo macchiato." A very useful material when pure white is not required.

5832. **Wax-white Alabaster,** which contains numerous markings of slightly different tint, visible only by transmitted light, Upper Miocene system, Apennine region, Pomerance, Pisa, Italy.

Called "Alabastro mandorlato" and polishes perfectly well.

5833. **White Alabaster**, containing some portions of less translucent nature than the rest, as seen by transmitted light, Upper Miocene system, Apennine region, Scopicci Quarries, Terenzana, Montecatini, di Val di Cecina, Pisa, Italy.

Used advantageously for decoration and ordinary sculptured ornaments.

5834. **Wax-white Alabaster**, very translucent when seen by transmitted light, when it is found to be traversed by an abundance of fine striated markings of almost the same tint as the rest of the stone, Upper Miocene system, Apennine region, Pomerance, Pisa, Italy.

Called "Alabastro bianco," an excellent ornamental stone.

5835. **Best White Statuary Alabaster**, Upper Miocene system, Apennine region, Castellina Maritima, Pisa, Italy.

This is the locality whence the purest alabaster in Europe is obtained and which is exported to all parts of the world. Found in ovoidal concretions up to three feet in length and two feet across.

5836. **Compact somewhat Brownish-gray Marble**, of various tints, and with pale-gray and white spathose markings, Mesozoic group, Cretaceous system, Vitulamo, Benevento, Italy.

A very handsome marble for columns and all internal decorative purposes.

5837. **Brecciated Marble**, known in commerce as "Breccia di Biassa," consists of small pinkish-brown and reddish elements, Mesozoic group, Liassic system, Biassa Quarries, Spezia, Genoa, Italy.

5838. **Compact Black Marble**, with bold and ever varied ochre-yellow veinings, and here and there translucent markings of white calcite, known as "Portoro" marble, Mesozoic group, Cretaceous system, Spezia, Genoa, Italy.

A very favorite marble largely exported, though rarely employed in Italy on account of its cost.

5839. **Yellow Marble**, with bold deep reddish and white-veined markings, Mesozoic group, Cretaceous system, Sovicille, Sienna, Italy.

A very favorite material for chimney pieces, columns, table tops, etc., for furniture. It is however little employed in Italy nowadays, and is principally exported. It takes a splendid polish; called "Sienna" marble.

5840. **Compact Yellow "Sienna" Marble,** with clouded grayish-yellow markings, traversed by fine purplish-red veins, Mesozoic group, Cretaceous system, Sovicille, Sienna, Italy.

A favorite marble for internal decoration of churches, houses, etc., and largely exported. Takes an excellent polish and has no defects.

5841. **Neverita recluziana** (Petit), Post-Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5842. **Yellow Marble** of compact structure, with white and purple veins; known as "Yellow Sienna Marble," Infra Lias system, Apennine region, Monti Arienti Quarries, Sovicille, Sienna, Italy.

Takes an excellent polish, has no flaws, and is of very pleasing color.

5843. **Yellow Marble** of compact structure, with bold deep purple veins traversing it in every direction; called "Brocatello di Sienna," Infra Lias system, Apennine region, Monti Arienti Quarries, Sovicille, Sienna, Italy.

A splendid ornamental stone for columns, slabs, and all kinds of decoration. Bears a perfect polish.

5844. **Breccia, consisting of fragments of Opaque, White, and Bluish-gray Marble,** and wine-colored cementing matter; Prepalæozoic group, Montalban's system, Apennine region, Stazzenna, Lucca, Italy.

5845. **Brecciated Marble,** consisting of white, gray, and pale-yellowish fragments imbedded in liver-colored cementing matter, Prepalæozoic group, Montalban's system, Apennine region, Petarocchia Quarry, Stazzenna, Lucca, Italy.

One of the finest ornamental colored marbles of Italy. From this quarry were procured the columns used in the vestibule of the Austrian Parliament House at Vienna.

5846. **Polychromic Brecciated Marble,** flesh-colored, red, liver-brown, etc., Prepalæozoic group, Montalban's system, Apennine region, Fornetto Quarry, Stazzenna, Lucca, Italy.

A very elegant ornamental stone for columns, and all kinds of internal architecture.

5847. **Brecciated Marble,** known as "Mischio di Seravezza," consisting of fine fragmentary marbles, and larger pieces, cemented by liver-colored matter, Prepalæozoic group, Montalban's system, Apennine region, Fornetto Quarry, Stazzenna, Lucca, Italy.

A beautiful decorative material for columns, and all kinds of internal work.

5848. **Magnificent Brecciated Poly-chromic Marble,** consisting of white fragments, in some cases tinged with gray or pink, in others of dark purplish red, Prepalæozoic group, Montalban's system, Apennine region, Stazzenna, Lucca, Italy.

5849. **Splendid Poly-chromic Brecciated Marble,** opaque-white, bluish-gray, Naples-yellow, liver-brown, etc., with wine-red ground, Infra Lias system, Apennine region, Petarocchia Quarry, Stazzenna, Lucca, Italy.

Nothing could exceed the exceptional beauty of this stone.

5850. **Slate-gray Crystalline Marble,** with opaque-white and grayish-white longitudinal streaks, Prepalæozoic group, Montalban's system, Apennine region, Capella Quarry, Seravezza, Lucca, Italy.

A very capital marble for common kinds of work, durable and of pleasing appearance. Known as "Marmo bardiglio scuro."

5851. **Slate-gray Crystalline Marble,** with longitudinal markings, or streaks of darker tint, alternating with opaque-white markings. It contains more white than the other specimen from the same locality, Prepalæozoic group, Montalban's system, Apennine region, Capella Quarry, Seravezza, Lucca, Italy.

5852. **Crystalline Grayish-blue Marble,** pervaded by longitudinal blackish-blue fibrous-like markings, and fine transverse filaments of the same color, the interstices often containing elongated dark gray spots, termed "Bardiglio fiorito," Prepalæozoic group, Montalban's system, Apennine region, Polotori Quarry, Stazzenna, Lucca, Italy.

One of the most showy of all Italian colored marbles; without any defects; polishes admirably.

5853. **Dark Dove-gray Bardiglio Marble,** with whitish streaks, Prepalæozoic group, Montalban's system, Apennine region, Canal Piscina Quarries, Carrara, Apuan Alps, Italy.

A very handsome and durable material, largely employed in Italy and exported in very considerable quantities to all parts.

5854. **"Persechino" Marble,** consisting of opaque-white ground, here and there stained pale-yellow, and traversed by beautiful blackish-purple veins. . Prepalæozoic group, Montalban's system, Apennine region, Rocchetta Quarry, Massa e Carrara, Apuan Alps, Italy.

A splendid lively ornamental marble, suitable for large work. Takes an excellent polish.

5855. **Veined-White Crystalline Marble,** Prepalæozoic group, Montalban's system, Apennine region, Piastrone Quarry, Massa e Carrara, Apuan Alps, Italy.

The ground has a delicate tinge of pearl-gray; called "Marmo bianco venato;" used like the other veined marbles of Massa e Carrara.

5856. **Crystalline Veined, and Spotted-White Marble,** called "Marmo venato ordinario," Prepalæozoic group, Montalban's system, Apennine region, Varralunga Quarry, Massa e Carrara, Apuan Alps, Italy.

5857. **Veined White Crystalline Marble,** the ground almost pure white, Prepalæozoic group, Montalban's system, Apennine region, Piastrone Quarry, Massa e Carrara, Apuan Alps, Italy.

Called "Marmo bianco venato." Much used for furniture, table tops, and all indoor decoration. A very extensively employed type.

5858. **Opaque-White Crystalline Marble,** with pale grayish markings, closely resembling porcelain, Prepalæozoic group, Montalban's system, Apennine region, Piastrone Quarry, Massa e Carrara, Apuan Alps, Italy.

Termed in commerce "Marmo venato."

5859. **Pearl-gray Crystalline Marble,** with gray veins, Prepalæozoic group, Montalban's system, Apennine region, Coyta Quarry, Seravezza, Lucca, Italy.

Called "Marmo bianco venato di seconda qualita."

5860. **Crystalline White Marble,** with cloudy bluish and brownish-gray veins, called "Marmo bianco venato," Prepalæozoic group, Montalban's system, Apennine region, Casa Grande Quarry, Massa e Carrara, Apuan Alps, Italy.

5861. **Crystalline White Marble,** with delicate small gray spots, Prepalæozoic group, Montalban's system, Apennine region, Canal Grande Quarry, Carrara, Apuan Alps, Italy.

A very excellent decorative marble, taking a good polish.

5862. **Coarse-grained Crystalline Marble,** consisting of dark and pale gray parts, more or less veined, Prepalæozoic group, Montalban's system, Apennine region, Muolo Quarry, Pietrasanta, Lucca, Italy.

The very commonest grayish-white marble; used for inferior indoor work, paving rooms, etc.; also for making mortars.

5863. **Coarsely Crystalline White Marble,** with pale gray bands, Prepalæozoic group, Montalban's system, Apennine region, Muolo Quarry, Pietrasanta, Lucca, Italy.

It is sold as "Marmo ordinario di terza qualita," and is the lowest quality of all Italian white marble. Employed for paving halls and rooms, but is not durable, or worth exporting. It is also made into mortars.

5864. **Pearl-white Crystalline Marble,** with slight veins of pale-gray tint, known in commerce as "Marmo ordinario di secunda qualita," Prepalæozoic group, Montalban's system, Apennine region, Trambisserra Quarry, Seravezza, Lucca, Italy.

Much prized for architectural purposes, and is very durable and homogeneous.

5865. **Impure Grayish-white Crystalline Marble,** with dark gray and brownish-gray longitudinal markings, "Marmo ordinario di secunda qualita," Prepalæozoic group, Montalban's system, Apennine region, Solaio Quarry, Seravezza, Lucca, Italy.

5866. **Opaque-white Crystalline Marble,** of excellent quality for all architectural purposes, inside and outdoor work, termed "Marmo ordinario di secunda qualita," Prepalæozoic group, Montalban's system, Apennine region, Arni Quarries, Vagli Sotto, Apuan Alps, Italy.

5867. **Crystalline White Marble** of excellent quality, with slight gray somewhat spotted markings, "Marmo ordinario di secunda qualita," Prepalæozoic group, Montalban's system, Apennine region, Polla Quarry, Seravezza, Lucca, Italy.

A highly esteemed marble suited for architectural and ornamental purposes and common sculpture to be placed in the open air.

5868. **Pearl-gray Crystalline Marble**, known as "Marmo ordinario di prima qualita," Prepalæozoic group, Montalban's system, Apennine region, Carebio Quarry, Montignoso, Lucca, Italy.

A very hard marble to work, but extremely durable even for outdoor purposes.

5869. **Crystalline Snow-white Opaque Marble**, known as "Marmo bianco P. prima qualita," Prepalæozoic group, Montalban's system, Apennine region, Piasbriccione Quarry, Massa e Carrara, Apuan Alps, Italy.

This type is largely sold in France and Belgium, where it is highly prized.

5870. **Statuary Marble**, Prepalæozoic group, Montalban's system, Apennine region, Betogli Quarry, Carrara, Apuan Alps, Italy.

This quarry furnishes blocks of any size, even sixty or more feet long if required. It is more transparent than the Seravezza statuary marbles.

5871. **Dark-green Oppicalcite**, traversed in every direction by an abundance of fine greenish-white, anastomosing veins of calcareous spar, Prepalæozoic group, Huronian system, Apennine region, Polcevera Quarry, Campo , Genoa, Italy.

One of the most generally employed varieties on account of its peculiar beauty; much exported; suited solely for internal purposes.

5872. **Oppicalcite**, consisting of dark liver-red ground, with greenish steatite markings, and whitish calcite veins, Prepalæozoic group, Huronian system, Apennine region, Levanto, Genoa, Italy.

A very handsome and expensive ornamental stone. It is absolutely useless for outdoor work, exposed to all the atmospheric changes.

5873. **Oppicalcite**, consisting of dark-red spots, alternating with dark-green spots, here and there interrupted by minute veins of white calcite, Prepalæozoic group, Huronian system, Apennine region, Levanto, Genoa, Italy.

This is a splendid ornamental stone for all internal decorations where a dark ground is sought for. On account of its great hardness and difficulty of working, it sells very expensively.

5874. **Dark Green, Brecciated, Oppicalcite,** with paler green veins, interspersed with others of white calcite, Prepalæozoic group, Huronian system, Apennine region, Levanto, Genoa, Italy.

A favorite ornamental stone for internal decorations.

5875. **Pale Grayish Ash-colored Compact Marble,** traversed by fine veins of darker tint, Mesozoic group, Cretaceous system, Noric Alps, Lago di Garda, neighborhood of Lazise, Verona, Italy.

5876. **Pale Yellowish-red Brecciated Marble,** with darker reddish-brown cementing matter, Mesozoic group, Jurassic system, Noric Alps, neighborhood of Saint Ambrogio, Val Policella, Verona, Italy.

It is extensively employed in northern Italy for columns and other architectural work.

5877. **Compact Marble,** consisting of bold rounded spots of brownish-red color, the interstices being occupied by brownish-yellow ground; Mesozoic group, Jurassic system, Noric Alps, neighborhood of Saint Ambrogio, Val Policella, Verona, Italy.

A good ornamental stone, very beautiful when polished. It has, however, many defects, and is seldom to be procured without any cavaties, which have to be filled up with mastic.

5878. **Black Marble,** traversed by fine wavy lines of pale yellow color, and with a few opaque white markings; termed "Portoro" marble, Mesozoic group, Infra Lias system, Maritime Alps, Ormea, Cuneo, Valle del Tanaro, Italy.

Very similar to the Spezia "Portoro," which is of the same geological period. A beautiful good stone.

5879. **Compact Blackish-gray and Yellowish-gray Marble,** with clouded ochre-yellow markings, Mesozoic group, Infra Lias system, Maritime Alps, Ormea, Cuneo, Valle del Tanaro, Italy.

A very handsome marble for chimney pieces and a variety of internal house decorations. This specimen is cut parallel to the beds of stratification.

5880. **Compact Blackish-brown Marble,** with splendid mouse-colored and ochre-yellow markings and veins, called "Portoro" marble, Mesozoic group, Infra Lias system, Maritime Alps, Ormea, Cuneo, Val di Tanaro, Adriatic Slope, Italy.

A magnificent marble for chimney pieces, interior wainscoting and decoration. This specimen is cut parallel to the planes of stratification, which gives a better effect.

5881. **Pearl-gray and White Crystalline Marble,** Pre[illegible]e-palæozoic group, Montalban's system, Alpine re[illegible]e-gion, Valdieri, Cuneo, Maritine Alps, Valle de[illegible]el Gesso, Italy.

A very good material for ornamental decoration, but much harder t[illegible] to work than Carrara marbles. The color is very pleasing to the eyes.

5882. **Honey-yellow, Reddish-brown and Grayish-white Stalactite,** Prepalæozoic group, Montal[illegible]— ban's system, Alpine region, Busca, Cuneo [illegible], Maritine Alps, Italy.

Employed as a decorative stone in Piedmont alone.

5883. **Pale-green Oppicalcite,** pervaded by abundan[illegible]t greenish white streaks and confused markings [illegible], Prepalæozoic group, Huronian system, Alpine[illegible]e region, Bussoleno, Turin, Cottian Alps, Valle d [illegible]i Susa, Italy.

Employed for internal decoration exclusively. It is of a much lighte[illegible]r color than the oppicalcite from Levanto, and the Polcevera varieties in [illegible] the Apennines.

5884. **Compact Brecciated Marble,** yellowish-gra[illegible]y ground, with brownish-yellow patches, Mesozoi[illegible]ic group, ——— system, Alpine region, Arzo, Can[illegible]n-ton Ticino, Lepontine Alps, Switzerland.

A good marble for chimney pieces, wainscoting rooms, etc.

5885. **Compact Yellowish-brown Marble,** traverse[illegible]ed by bold and elegant white spathic veins, Mesozoi[illegible]oic group, ——— system, Alpine region, Besazi[illegible]zio Quarries, Arzo, Canton Ticino, Lepontine Alp[illegible]lps, Switzerland.

5886. **Carved Image in Cellular Lava,** resembling [illegible]g bird. This material and manner of carving i[illegible]in peculiar to the cliff-dwellers and Indians who in[illegible]as habited the banks of the Gila River, built Cas[illegible]or Grande, and engineered the extensive irrigation[illegible]en works, the remains of which can still be seen [illegible]as The original of No. 1554 is of this character, a[illegible]ity are the corn grinders often found in the locality[illegible]in-mentioned. The exact locality at which this in-[illegible]ed teresting relic was found is not known. Presente[illegible] by E. J. Wickson.

5887. **Perforated Ornamental Stone** of Serpentine[illegible]e, San Nicholas Island, Coast of California, south o[illegible]f Santa Barbara and Ventura, California. J. Z[illegible] Davis.

5888. **Pieces of Red Stone** (Hematite), probably used in some Indian game; two specimens; San Nicholas Island, Coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5889. **Small Discs of Perforated Shell**, three specimens, San Nicholas Island, Coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5890. **Small Disc of Shell**, with two perforations; San Nicholas Island, Coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5891. **Shell Ornaments**, San Nicholas Island, Coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5892. **Bone Bodkins**, San Nicholas Island, Coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5893. **Curved Bone Implements**, San Nicholas Island, Coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5894. **Small Perforated Stone**, San Nicholas Island, Coast of California, south of Santa Barbara and Ventura, California J. Z. Davis.

5895. **Ornamental Carved Tablet of Bone**, San Nicholas Island, Coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5896. **Pieces of Split Bone**, San Nicholas Island, Coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5897. **Small Lower Jawbone**, used as an implement, San Nicholas Island, Coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5898. **Fossil Shell** (Turitella), used as an implement, San Nicholas Island, Coast of California, south of Santa Barbara and Ventura, California. J. Z. Davis.

5899. **Stump of Small Pine Tree,** completely overgrown with new wood and bark, cut in the Cascade Range, Oregon. E. F. Lorquin.

5900. **Enlarged Photograph of W. H. Brewer,** Botanist of Professor Whitney's Survey, 1860.

5901. **Enlarged Photograph of Charles T. Hoffman,** Topographer of Professor Whitney's Survey, 1861.

5902. **Enlarged Photograph of Clarence King,** Volunteer Assistant of Professor Whitney's Survey, 1863.

5903. **Enlarged Photograph of William Ashburner,** Assistant in Economical Geology of Professor Whitney's Survey, 1860–61.

5904. **Photograph of J. G. Cooper, M.D.,** Zoologist of Professor Whitney's Survey, 1860–4.

5905. **Photograph of J. G. Gardner,** Assistant in Topographical field work of Professor Whitney's Survey, 1864.

5906. **Limonite** (Botryoidal), eighteen miles south of Redding, California. B. Conroy.

5907. **Scraper of Brown Jasper,** from Small Meadow, mountain road east of Mount Hoffman, Mariposa County, California.

5908. **Semi-opal,** occurs in a vein four or five feet wide in granite, Tehachipi Summit, Kern County, California. Chas. Stewart.

5909. **Black Magnetic Sand,** Alameda, California. Dr. J. G. George.

5910. **Sand,** from below layer of sandstone, Temple Street cut, Los Angeles, California. J. W. Redway.

5911. **Cerithium striatum** (Lea.), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5912. **Astarte nicklini** (Lea.), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5913. **Siliquaria claibornensis** (Lea.), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5914. **Pectunculus broderpii** (Lea.), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5915. **Crepidula cornu-arietes** (Lea.), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5916. **Plicatula mantellii** (Lea.), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5917. **Crassatella protesta** (Con.), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5918. **Venericardia parva** (Lea), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5919. **Venericardia rotunda** (Lea), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5920. **Voluta parkinsonii** (Lea), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5921. **Corbula murchisonia** (Lea), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5922. **Corbula alabamiensis** (Lea), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5923. **Monoceras engonatum** (Con.), Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5924. **Rostelaria lamarckii** (Lea), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5925. **Turbinolia maclurii** (Lea), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5926. **Ancillaria staminea** (Lee), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5927. **Bulla st. hillarii** (Lea), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5928. **Nucula sedgewickii** (Lea), Tertiary Fossil, Auburn, Lee County, Alabama. F. E. Monteverde.

5929. **Curious Substance,** taken from the intestines of a cow at Mazatlan, Mexico. Louis F. Gilmour.

5930. **Placer Gold,** very clean and bright, from the neighborhood of Beaver Dam, Montgomery County, North Carolina. William Frecheville.

5931. **Sphere of Rock Crystal** (quartz), 2½ inches in diameter, sent to the State Museum by Professor C. Netto, of the University of Tokio, Japan, in exchange for California specimens.

5932. **Gold,** from quartz, Dr. Worth's place, Montgomery County, North Carolina. William Frecheville.

5933. **Sulphurets,** washed from earth taken from a tunnel in the Amador Gravel Mine, near Jackson, Amador County, California. J. Bluxome.

5934. **Black Magnetic Sand,** found between sandstone strata near Watsonville, Santa Cruz County, California. A. H. Dixon.

5935. **Earth** (adobe), lying above the "Brea" (asphaltum), Brea ranch, near Los Angeles, California. J. W. Redway.

5936. **Concentrations from Comstock Silver Ore,** made by Stephens' concentrator. Dr. J. P. Mooklar.

5937. **Sand,** from the desert, Township 5 south, Range 6 west, S. B. M. H. H. Green.

5938. **Concentrations,** from the ores of Plomoso District, Arizona. Dr. J. P. Mooklar.

5939. **Stibnite,** in magnificent crystals, Alta Antimony Mine, Section 30, Township 11 south, Range 7 east, San Benito County, California. Mine described on folio 374, fourth annual report of State Mineralogist. See also No. 4099.

5940. **Magnetic Sand,** French Corral, Nevada County, California.

5941. **Gravel,** distinct from the sandstone; used in macadamizing streets, Los Angeles, California. J. W. Redway.

5942. **Sand,** in natural state, sedimentary deposit intercalated with sandstone, Temple Street cut, Los Angeles, California. J. W. Redway.

5943. **Quartz Sand,** Cheshire, Berkshire County, Massachusetts. Miss A. M. Squire.

5944. **Magnetic Beach Sand,** British Columbia. J. F. Johnson.

5945. **Sand,** wash of the Los Angeles River, Los Angeles County, California. J. W. Redway.

5946. **Alkali** (?), forming a layer in the sandstone deposit, Temple Street cut, Los Angeles, California. J. W. Redway.

5947. **Magnetic Sand,** Bonanza Bar, Snake River, Idaho, screened from the gravel and concentrated in miner's pan.

5948. **Auriferous Sulphurets,** from crushed ores, Grass Valley, Nevada County, California, concentrated by Stephens' concentrator. Dr. J. P. Mooklar.

5949. **Hydraulic Sands,** Gold Run Mine, Placer County, California; on bedrock; analysis published in second annual report of State Mineralogist, folio 100, marked No. 1. Mrs. W. A. Skidmore.

5950. **Hydraulic Sands,** 150 feet above bedrock, Gold Run Mine, Placer County, California; analysis published in second annual report of State Mineralogist, folio 100, marked No. 2. Mrs. W. A. Skidmore.

5951. **Hydraulic Sands,** 300 feet above junction of north and middle forks of the American River, Placer County, California; analysis published in second annual report of State Mineralogist, folio 100, marked No. 3. Mrs. W. A. Skidmore.

5952. **Sand**, from the American River, 200 feet above junction with Sacramento River, Sacramento County, California; analysis published in second annual report of State Mineralogist, fol. 100, marked No. 4. Mrs. W. A. Skidmore.

5953. **Quartz Tailings**, Oregon Ravine, near Placerville, El Dorado County, California, 1,000 feet below the Pacific Mine. Mrs. W. A. Skidmore.

5954. **Flakes of Chert**, used as implements, probably for scraping skins, found on the Island of San Nicholas, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5955. **Flakes of Dark-colored Chert**, the refuse from making spear and arrow points, San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5956. **Flakes of Light-colored Chert**, San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5957. **Large Flake of Dark-colored Chert**, probably a core from which smaller flakes were broken, San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5958. **Flakes of Chalcedony**, refuse in making implements, San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5959. **Spear Point of Gray Chert** (imperfect), San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5960. **Spear Point of Dark-brown Chert** (imperfect), San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5961. **Spear Point of Dark-brown Chert** (perfect), San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5962. **Knife of Gray Chert,** San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5963. **Arrow Point of Reddish-brown Chert** (perfect), San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5964. **Arrow Point of Gray Chert,** veined with white, San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5965. **Arrow Points of Gray Chert,** very broad, San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5966. **Arrowhead of Green Jasper,** small but perfect, San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5967. **Arrowheads of White Chalcedony,** San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5968. **Arrowheads of Chalcedony,** rhombic in form, San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5969. **Arrowheads of Red Jasper,** San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5970. **Arrowheads of Red and Black Jasper,** small, San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5971. **Arrowheads of Chert,** long, San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5972. **Arrowheads of Chert,** San Nicholas Island, coast of California, south of Santa Barbara and Ventura Counties, California. J. Z. Davis.

5998. **Tellina bodegensis** (Hds.), Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5999. **Chione succincta** (Val.), Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

6000. **Lacuna solidula** (Loven), (L. curinata), Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

Pebbles of Porphyry, Pebble Beach, Pescadero, San Mateo County, California.

Pebbles of Chalcedony, Pebble Beach, Pescadero, San Mateo County, California.

Pebbles of Sedimentary Rock, Pebble Beach, Pescadero, San Mateo County, California.

Pebbles of Fine Sedimentary Rock, Pebble Beach, Pescadero, San Mateo County, California.

Tooth of Elephas Primigenius, twenty miles east of Warner's ranch, Modesto, San Joaquin County, California. G. Spuner.

Fossil Bone, found with No. 5989, Warren ranch, twenty miles east of Modesto, San Joaquin County, California. G. Spuner.

Barite, found ten miles above Georgetown, El Dorado County, California. A. L. Burbridge.

Roofing Slate, Pennsylvanian, Pennsylvania. Conlin & Roberts.

Roofing Slate, from El Dorado County, California. Conlin & Roberts.

Volcanic Breccia, used as a building stone in Susanville. It is said to resist the action of fire, as shown during a recent conflagration in that town. Section 5, Township 29 north, Range 13 east, 8½ miles from Susanville, Lassen County, California. F. H. Merrill.

Lucina californica (Con.), Post Pliocene Tertiary Fossil, Dead Man's Island, San Pedro Bay, Los Angeles County, California. Mrs. A. E. Bush.

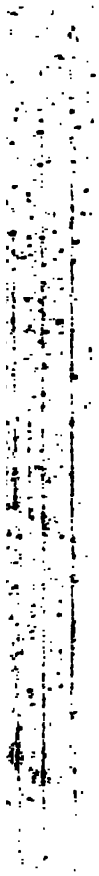
Cumingia californica (Con.), Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

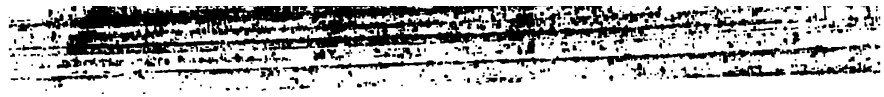
Pecten hastatus (Sby.), Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5998. **Tellina bodegensis** (Hds.), Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

5999. **Chione succincta** (Val.), Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

6000. **Lacuna solidula** (Loven), (L. curinata), Post Pliocene Tertiary Fossil, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.





ALIFORNIA STATE MINING BUREAU.

WILLIAM IRELAN, JR., STATE MINERALOGIST.

CATALOGUE

OF THE

NTE MUSEUM OF CALIFORNIA, VOL. 3,

ORDER FOR

OLLECTIONS MADE BY THE STATE MINING BUREAU,

FROM MAY 15, 1881, TO MARCH 31, 1887.

STATE OFFICE. SACRAMENTO:
P. L. HOLT, SUPT. STATE PRINTING.
1887.

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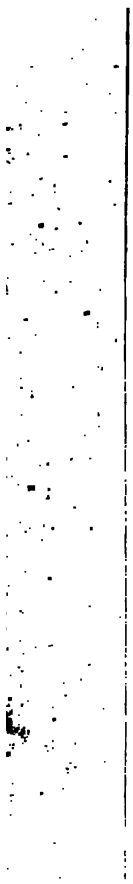

MUSEUM CATALOGUE.

6001. **Epsomite** (Sulphate of Magnesia), with Cinnabar in minute quantities. Mr. Cox.

Found in the Redington Quicksilver Mine, Napa County, California.

6002. **Argentite** (Sulphide of Silver), Oriental Mine, Deep Spring Valley, Inyo County, California. A. H. Griswold.

Taken from a depth of sixty feet.

6003. **Rock Specimen** from the Cargo Muchacho Mining District, San Diego County, California. Obtained from William Sublette.

This rock has been examined and found to be a variety of dunnite. very interesting, and sections have been cut for microscopic examination and study. The green mineral is olivine, and the black magnetite. There is another mineral in the rock which has not yet been determined. It is micaceous, and resembles Jefferisite. This rock will be carefully studied and described.

6004. **White and Black Granite,** with small crystals of mica, quartz, and flesh-colored feldspar intimately mixed. Technical name in Rome, "Granito del Foro." Rome.

6005. **White and Black Granite,** the black element predominating; bold design. Technical name, "Granito lumacato nero." Rome.

6006. **White, Black, and Greenish Granite,** containing minute elements. Technical name, "Granito verde della Sedia." Rome.

6007. **Granite,** consisting of black mica and pale leek green feldspar, in confused intermixture; also, a very slight proportion of small quartz crystals, forming a minute design. Technical name, "Granito erbetta." Rome.

6008. **Rosy-red and Black Syenite,** of bold design, from Egypt; the classical syenite of ancient Roman monuments. Technical name, "Granito rosso a grand-macchia della Guglia." Rome.

6009. **Egyptian Syenite,** consisting of fine elements of black hornblende, pinkish feldspar, and white quartz, the latter very scarce. Technical name, "Granito rosso ejizio." Rome.

6010. **Elvan Dyke** (?), consists of small opaque and impure white feldspar crystals, small diaphanous quartz elements, and black markings, the whole forming a minute design, and bedded in pale-gray menstruum. Technical name, "Vulmignone." Rome.

6011. **Red Porphyry,** from Egypt, consisting of very minute crystals of impure white feldspar in dark reddish white ground. Technical name, "Porfido d'Egitto." Rome.

The material so largely employed by the Pharaohs, and subsequently the true imperial stone of ancient Rome. Probably the most durable of all the materials ever used in the world. Many of the monuments remain as smooth surfaced as the day they were erected.

6012. **Green Porphyry,** consisting of bold pale-green crystals of feldspar, imbedded in dark-green ground. Technical name, "Porfido serpentina con macchia agatate." Excavations of Porto, near Rome.

6013. **Porphyry,** consisting of small opaque white and pale greenish-white feldspar crystals, imbedded in slightly yellowish-green menstruum. Technical name, "Porfido verde." Rome.

6014. **Green Oppicalcite,** consisting of bold dark-green serpentine elements, and spots of milk-white calcite, imbedded in pale-green steatitic calcareous ground, somewhat of the color of aqua-marine. Technical name, "Verde antico." Ruins of Aquileja, Province of Udine.

6015. **Green Oppicalcite,** consisting of large fragments of dark-green serpentine, and spots of milk-white calcite, cemented by pale pea-green steatitic calcareous matter, somewhat darker green than number preceding. Technical name, "Verde antico." Ruins of Aquileja, Province of Udine.

6016. **Oppicalcite,** consisting of somewhat brownish green non-diallagic serpentine, with spots of milk-white, and impure white calcite, and pale-green steatitic calcareous markings and cementing matter. Technical name, "Verde antico." Rome.

6017. **Impure Milk-white Marble** of compact structure, with indefinite gray markings of various tints. Technical name, "Marmo latticiato." Rome.

6018. **Compact Dark Ochre-yellow Marble,** traversed by fine lines of fracture, with calcareous spar, and dotted over with very minute dendritic markings. Rome.

6019. **Compact Gray and Pale Yellowish-white Marble,** with numerous fine fractures, and profusely covered over with fine dendritic markings of an elongated form. Technical name, "Marmo paesina fiorita." Rome.

6020. **Deep Blood-red Compact Marble,** with spots of impure white calcite. Technical name, "Marmo rosso antico." Rome.

6021. **Pale Reddish-pink Compact Marble,** with minute spots of whitish calcite. Technical name, "Marmo giallo bruciato." Rome.

This was originally a yellow marble, colored by carbonate of iron, but having been subjected to the action of heat in some fire (possibly in former times ?), has changed color, owing to the partial change effected in the ferruginous matter.

6022. **Compact Marble,** of various tints of gray, and gray-white, with spots of rosy-red. Technical name, "Marmo africano bigio con macchia sanguigne." Excavations of Porto, near Rome.

6023. **Compact Brecciated Marble,** consisting of light-brown and pale brownish-white fragments, cemented by dark brown matter, and traversed by fine grayish-white veins of calcareous spar. Rome.

6024. **Compact Brecciated Marble,** consisting of fragments of rosy-red and pale yellowish-white calcite, and pale brownish-green ground. Technical name, "Marmo africano verde chiaro con macchia coralline e rosso." Excavations of Porto, near Rome.

6025. **Compact Breccia,** consisting of a very harmonious intermixture of pure white and gray of various tints, disposed in elongated manner and cemented by brownish-red matter, constituting very delicate ramifying veins. Technical name, "Breccia di Sette bassi, disposigione a Semesanto." Ruins of Aquileja, Province of Udine.

6026. **Compact Breccia,** consisting of minute fragments of white and various tints of brownish-white and pale brown, cemented by dark reddish-brown matter. Technical name, "Marmo Giallo brecciato Borghese." Rome.

6027. **Compact Breccia,** consisting of elements of various gradations of gray and neutral tint, with white, the colors harmoniously arranged in somewhat elongated manner. Technical name, "Marmo fior di Persico brecciato." Rome.

6028. **Compact Breccia,** consisting of bold fragments of opaque-white and yellowish-white, with fringed outline and deep reddish-brown cementing matter, spotted with white and yellow. Technical name, "Breccia spangiata."

6029. **Compact Conglomerate Marble,** formed of flattened pebbles of white marble of various tints, united by brownish cementing matter. Italy.

6030. **Compact Breccia,** with pale brownish-yellow fragments and wine-red cementing matter. Technical name, "Porta Santa Rosa." Rome.

6031. **Compact Breccia,** consisting of fragmentary yellowish and pinkish-white marble, much fractured, the intervening spaces pervaded by pink coloring matter of a paler tint than the surrounding cement. Technical name, "Marmo corallino." Rome.

6032. **Compact Polychromic Breccia**; predominating colors—ash-gray, bluish-gray, yellowish-white, and ochre-yellow, with small traces of peach-blossom colored cementing matter. Technical name, "Breccia tracaguina." From the Villa Imperiale, Posilipo, Naples, 1841.

6033. **Compact Breccia,** inclosing fragments of pale flesh-colored, gray, and reddish-yellow limestone and blue-gray calcite markings imbedded in dark brownish-red cementing matter. Technical name, "Marmo Porta Santa reticolato brecciato."

6034. **Compact Conglomerate,** consisting of rounded pieces of white and peach-colored marble or limestone, and minute gravel, of same nature, imbedded in copious dark grayish-brown cementing matter. Technical name, "Marmo Africano nero." Rome.

6035. **Conglomerate,** consisting of pieces of white marble, partly tinged of a delicate peach-red color, and inclosed in abundant dark grayish-green cementing matter. Technical name, "Marmo Africano nero." Rome.

6036. **Compact Impure Marble,** containing small pieces of white marble, for the greater part tinged pinkish-red, inclosed in dark brownish-red ground, forming a clouded design. There are also some very minute fractures filled with pyrites. Technical name, " Marmo Africano." Rome.

6037. **Conglomerate,** containing rounded masses of white, pale yellowish-white, and brownish-red marble, inclosed in pale grayish-green cementing matter, which occupies a considerable proportion of the stone. Technical name, " Marmo Africano verde." Rome.

6038. **Breccia,** consisting of fragments of crystalline white marble, united by pure colored cementing matter, intermixed with yellowish-green impurities. Technical name, " Marmo sette basi." Rome.

6039. **Passage from Cipollino Marble,** to beds of impure white marble of large crystalline structure consists of alternations of amygdaloidal masses of white marble and stripes or markings of amphibole, forming a beautiful design. Technical name, "Marmo scritto." Rome.

6040. **Cipollino Marble,** of banded ribband-like appearance, the various colors produced by impure white marble, associated with various proportions of amphibole of different shades of dark green. Technical name, "Cipollino antico." Rome.

6041. **Grayish-White Greek Marble,** of large crystalline structure, with longitudinal bands of dark gray and blackish-gray. Termed, " Marmo greco antico." Paros?

6042. **Very Translucent Stalactite,** honey-yellow and brown, of various delicate tints in parallel bands. Technical name, " Alabastro orientale." Excavations of Rome.

6043. **Somewhat Opaque Stalactite,** in various gradations of yellowish-white, with bold brown and reddish-brown bands. Technical name, " Alabastro orientale spangiato."

6044. **Pale Honey-Yellow Stalactite,** with bands of darker tint, and radiating crystals of calcite. "Alabastro orientale antico." Rome.

6045. **Clouded Stalactite,** flesh-white, pale yellowish-brown. Technical name. "Alabastro orientale rosa." Rome.

6046. **Ribband-like Stalactite,** with parallel wavy bands, white, wood-brown, pale-yellow, and pink. Technical name. "Alabastro orientale agatato." Rome.

6047. **Honey and Wood-brown Stalactites,** in parallel bands. Technical name. "Alabastro orientale." Rome.

NOTE.—By "alabastro" is understood sulphate of lime or Alabaster, but by "alabastro orientale" is uniformly meant calcareous stalactites.

6048. **Impressions of Leaves,** in so called lava, Chili Gulch, Calaveras County (see 4219). Dr. William Jones.

6049. **Melaconite, Black Oxide of Copper with Bornite and Granules of Metallic Copper,** found in modules of considerable size in the Satellite Copper Mine, formerly the Lancha Plana, near Campo Seco, Calaveras County, California. H. D. Ranlett.

6050. **Barite,** Satellite Copper Mine, near Campo Seco, Calaveras County. H. D. Ranlett.

6051. **Gypsum,** of superior quality, lately found in large quantities at Point Sal, Santa Barbara County, California, and largely used in the manufacture of Plaster of Paris. Lucas & Co.

6052. **Actaeonella oviformis** (Gabb.), cretaceous fossil, Los Angeles County.

6053. **Lacuna carinata** (Gld.), Tertiary, San Pedro, Los Angeles County.

6054. **Crepidula adunca** (Sby.), Post Pliocene, San Pedro, Los Angeles County.

6055. **Lucina borealis,** Post Pliocene, Tertiary, Deadman's Island, Bay of San Pedro, Los Angeles.

6056. **Perna mulleti** (Desh.), characteristic lower cretaceous fossil, Neocomian, or Lower Greensand, Isle of Wight, England.

6057. **Sandstone with Lignite,** six miles west of Maxwell, Colusa County, in lower foothills. Indicates coal. Samuel Gregory.

6058. **Monazite Crystals.** Phosphate of thorium, cerium, etc, Moss, Norway.

6059. **Rutile and Apatite,** Titanic acid, Krageröe, Norway.

6060. **Scapolite-wernerite,** Silicate of lime, alumina, iron, soda, etc. Arendal, Norway.

6061. **Datolite,** Boro-silicate of lime, Arendal, Norway.

6062. **Fergusonite,** columbate of yttrium, cerium, etc., Arendal, Norway.

6063. **Apatite Crystals,** Phosphate of lime with chloride or fluoride of lime, Arendal, Norway.

6064. **Cobaltite,** cobalt-glance crystals, sulpharsenite of cobalt, Norway.

6065. **Serpentine with magnesite (?),** hydrous silicate of magnesia, iron, alumina, etc., Norway.

6066. **Chondrodite,** fluosilicate of magnesia, Christiansand, Norway.

6067. **Hornblende Crystals,** variety of amphibole, silicate of magnesia, iron, alumina, etc., Krageröe, Norway.

6068. **Aventurine feldspar,** Sun Stone. Oligoclase feldspar, with disseminated crystals of hematite or göthite, Tvedestrand, Norway.

6069. **Uralite,** augite altered to hornblende. Anhydrous silicate, Arendal, Norway.

6070. **Colophonite with white monazite,** variety of andradite. Anhydrous silicate of iron, lime, alumina, etc., Arendal, Norway.

6071. **Botryolite,** variety of datolite, hydro-boro-silicate of lime, Arendal, Norway.

6072. **Apatite Crystals,** with tourmaline: phosphate of lime, with chloride and fluoride of lime, Arendal, Norway.

6073. **Beryl** (green), anhydrous silicate of alumina and glucina, Eidsvold, Norway.

6074. **Vesuvianite, Idocrase,** anhydrous silicate of alumina, lime, iron, magnesia, manganese, etc., Egerōe, Norway.

6075. **Babbingtonite,** anhydrous silicate of lime, iron, magnesia, etc., Arendal, Norway.

6076. **Cyprine,** anhydrous silicate, variety of Vesuvianite (see 6074), colored blue by copper, Souland, Norway.

6077. **Cocolite,** anhydrous silicate, variety of Pyroxene—lime, magnesia, pyroxene, Arendal, Norway.

6078. **Orthite Crystals,** variety of Allanite, anhydrous silicate of cerium, alumina, lime, iron, etc., Arendal, Norway.

6079. **Thulite,** rose-red zoisite, anhydrous silicate of alumina, iron, lime, etc., Arendal, Norway.

6080. **Orthoclase,** Potash feldspar, anhydrous silicate of alumina, potash, lime, soda, etc., Arendal, Norway.

6081. **Enstatite Crystals.** Bronzite, anhydrous silicate of magnesia, alumina, iron, etc., Bamle, Norway.

6082. **Wollastonite,** near Glenbrook, Lake County, California, Township 12 north, Range 7 west.

6083. **Stone Axe,** California, but exact locality unknown. Mr. D. C. Stone.

6084. **Stone Axe,** California, but exact locality unknown. Mr. D. C. Stone.

6085. **Stone Dish** (perhaps a lamp), California, but exact locality unknown. Mr. D. C. Stone.

6086. **Indian Implement,** made from a stalactite: found at Willow Slough, Colusa County, California. John Allman.

6087. **Fragment of Stone Axe,** Colorado Desert. John Daggett.

6088. **Fishhook** of bone and wood, Aleutian Islands. Ad. Sommer.

6089. **Wooden Cylinders,** use unknown, perhaps a game. Aleutian Islands. Ad. Sommer.

6090. **Arrow Heads,** Novarro, Humboldt County, California.

6091. **Chips of Chalcedony,** Humboldt County, California.

6092. **Copy of Sidropbel's Almanack, 1785,** published in Waterbury, 1784. William H. Briggs.

6093. **Piece of the Original Atlantic Cable** laid by the Great Eastern. C. L. Ross.

6094. **Piece of a Rafter,** from the old Mission Church, Carmelo, Monterey County, California, built in 1770, by Padre Junipero Serra. Presented by Mrs. E. B. Cooper.

But few nails could be obtained, and these were sent from Spain. Rawhide thongs were used as a substitute, and the timbers tied together. (See 6095, the nails, and 6096, the rawhide thongs.)

6095. **Nails,** brought from Spain and used in the construction of old Mission Church at Carmelo, Monterey County, California (see No. 6094). Mrs. E. B. Cooper.

6096. **Rawhide Thongs,** used as a substitute for nails in building the old Mission Church, Carmelo, Monterey County, California (see 6095). Mrs. E. B. Cooper.

6097. **Portion of a Roofing Tile,** from old Mission Church, Carmelo, Monterey County, California. Mrs. E. B. Cooper.

Probably made in Spain (see 6094).

6098. **Building Stone,** used in the construction of old Mission Church, Carmelo, Monterey County, California (see 6094). Mrs. E. B. Cooper.

6099. **Stone Pestle,** either very rude or very old, California, exact locality unknown. D. C. Stone.

6100. **Stone Pestle,** California, but exact locality unknown. D. C. Stone.

6101. **Stone Pestle of Mica Schist,** California, exact locality unknown. D. C. Stone.

6102. **Stone Pestle of Mica Schist,** California, exact locality unknown. D. C. Stone.

6103. **Garnierite,** from the Boa Kaini Mine, Canala, New Caledonia. (See 2763.) Cav. Luigi Hanckar.

6104. **Piece of Wagon** which belonged to the emigrants who perished in Death Valley, Inyo County, California, in 1849, found by Newton M. Bell, February 15, 1883, near the emigrant road, in lower end of valley, about five miles from mouth of Furnace Creek.

6105. **Magnesite,** said to exist in considerable quantity in the northeast corner of Santa Clara County, Township 5 south, Range 4 east, or thereabout, crops out in a ledge several feet wide and several feet high, called the Magnesia Claim, Washington Corners, Alameda County, California. John Coffney.

6106. **Core of Obsidian,** from which fragments have been chipped to make arrow heads by the Indians. Presented by Captain W. J. Woodley.

It resembles, in some respects, No. 1387. It was found near Smith's ranch, ——? County.

6107. **Nautilus decoratus,** Cox, 1857, Geo. Sur., Ky., Vol. 3, Coal Meas., Knox County, Illinois.

6108. **Productus muricatus,** Norwood and Pratten, 1854, Jour. Acad. Nat. Sci., Phil., Coal Meas., Knox County, Illinois.

Prof. Meek regarded this as a syn. for P. longispinus.

6109. **Productus prattenianus,** Norwood, 1854, Jour. Acad. Nat. Sci., Phil., 2d series, Vol. 3, Coal Meas., Knox County, Illinois.

6110. **Productus nebrascensis,** Owen, 1852, Geo. Rep. Wis., Iowa, and Minn., Coal Meas., Knox County, Illinois.

6111. **Productus longispinus**, Sowerby, 1814, Min. Couch., Vol. 1, Coal Meas., Knox County, Illinois.

6112. **Spirifer cameratus**, Morton, 1836, Am. Jour. Sci., Vol. 29, Coal Meas., Peoria County, Illinois.

6113. **Spirifer kentuckiensis**, Shumard, 1855, Geog. Rep. Mo., Coal Meas., Peoria County, Illinois.

6114. **Spirifer lineata**, Martin, 1809, Petrif. Derb., Coal Meas., Peoria County, Illinois.

6115. **Bellerophon montfortanus**, Norwood and Pratten, 1855, Jour. Acad. Nat. Sci., Coal Meas., Peoria County, Illinois.

6116. **Bellerophon carbonarius**, Cox, 1857, Geo. Rep. Ky., Vol. 3, Coal Meas., Peoria County, Illinois.

6117. **Athyris subtilita**, Hall, 1852, Stansbury's Exped. to Great Salt Lake, Coal Meas., Peoria County, Illinois.

6118. **Athyris royins** (?), Coal Meas., Peoria County, Illinois.

6119. **Rhynchonella uta**, Marcou, 1858 (Terebratula uta), Geo. N. Amer., Coal Meas., Peoria County, Illinois.

6120. **Rhynchonella illinoisensis**, Coal Meas., Peoria County, Illinois.

6121. **Rhynchonella metallica**, White, 1874, Rep. Invert., Foss. Carb., Peoria County, Illinois.

6122. **Pleurotomaria grayvillensis**, Norwood and Pratten, 1855, Jour. Acad. Nat. Sci., 2d Series, Coal Meas., Peoria County, Illinois.

6123. **Pleurotomaria illinoisensis**, Coal Meas., Peoria County, Illinois.

6124. **Hemipronites** (Streptorhynchus) **crassus**, Coal Meas., Peoria County, Illinois.

6125. **Petrodus occidentalis**, Newberry and Worthen, 1866, Geo. Sur. Ill., Vol. 2, Coal Meas., Peoria County, Illinois.

6126. **Nucula ventricosa,** Hall, 1858, Geo. Sur. Iowa, Coal Meas., Peoria County, Illinois.

6127. **Chonetes mesoloba,** Norwood and Pratten, 1854, Jour. Acad. Nat. Sci., Vol. 3, Coal Meas., Peoria County, Illinois.

6128. **Chonetes parva,** Shumard, 1855, Geo. of Mo., Coal Meas., Peoria County, Illinois.

6129. **Discina nitida,** Phillips, 1836 (Orbicula nitida), Geo. of York, Coal Meas., Peoria County, Illinois.

6130. **Trachydomia nodosum,** Meek and Worthen, 1860 (Naticopsis nodosum), Proc. Acad. Nat. Sci., Phil., Low, Coal Meas., Peoria County, Illinois.

6131. **Cyathaxonia distorta,** Worthen, 1875, Geo. Sur. Ill., Vol. 6, Coal Meas., Peoria County, Illinois.

6132. **Lophophyllum proliferum,** McChestney, 1860 (Cyathaxonia prolifera), New Pal. Foss., Coal Meas., Peoria County, Illinois.

6133. **Retzia mormoni,** Marcou, 1858 (Terebratula mormonii), Geo. N. Amer., Coal Meas., Peoria County, Illinois.

6134. **Fusilina cylindrica,** Fischer, 1837, Oryct. du Gouv. de Moscou, Coal Meas., Peoria County, Illinois.

6135. **Chonetes flemingi,** Norwood and Pratten, 1854, Jour. Acad. Nat. Sci., Vol. 3, Permian Gr. (Carboniferous), Peoria County, Illinois.

6136. **Rhabdocarpus mammillatus,** Lesquereux, 1870, Geo. Sur. Ill., Vol. 4, Coal Meas., Stark County, Illinois.

6137. **Trigonocarpon noeggerathi,** Brongniart, 1828, Prodr. Hist. Veg. Foss., Coal Meas., Stark County, Illinois.

6138. **Trigonocarpon dawsi,** Lindley and Hutton, 1837, Foss. Flora, Coal Meas., Stark County, Illinois.

6139. **Trigonocarpon starkianus** (Lesq.), Coal Meas., Stark County, Illinois.

6140. **Trigonocarpon adamsi** (Lesq.), Coal Meas., Stark County, Illinois.

6141. **Carpolithes prepusillus** ? (Lesq.), Coal Meas., Stark County, Illinois.

6142. **Obsidian Pebbles**, found in large quantities in the debris of a lava formation, a loose soil, in Lassen County, exact locality not given.

They resemble, except in color, No. 4638, found near Phœnix, Maricopa County, Arizona; some of them appear to be obscurely crystallized, and at first glance resemble sapphire, but their behavior in the blowpipe flame reveals their true character.

6143. **Orthis plicatella** (Hall), Lower Silurian Fossil, Cin. Gr., Cincinnati, Ohio.

6144. **Chromic Iron**, of good quality, found at an altitude of six thousand feet, Salmon Divide, northwest part of Trinity County, California. H. P. Love.

6145. **Vola quinquecostata**, Cretaceous Fossil, Korycany, Bohemia.

6146. **Pecten acuminatus**, Cretaceous Fossil, Korycany, Bohemia.

6147. **Vola phaseola**, Cretaceous Fossil, Korycany, Bohemia.

6148. **Vola digitalis**, Cretaceous Fossil, Korycany, Bohemia.

6149. **Ammonites bravaisianus**, Cretaceous Fossil, Vsetaty, Bohemia.

6150. **Nautilus sublævigatus**, Cretaceous Fossil, Strahov, Bohemia.

6151. **Scaphites geinitzi**, Cretaceous Fossil, Lenesice, Bohemia.

6152. **Rhynchonella cuvieri**, Cretaceous Fossil, Laun, Bohemia.

6153. **Rhynchonella plicatilis**, Cretaceous Fossil, Korycany, Bohemia.

6154. **Rhynchonella compressa,** Cretaceous Fossil, Korycany, Bohemia.

6155. **Terebratula phaseolina,** Cretaceous Fossil, Zbyslav, Bohemia.

6156. **Terebratula striatula,** Cretaceous Fossil, Nova-Ves, Bohemia.

6157. **Acmaea concentrica,** Cretaceous Fossil, Korycany, Bohemia.

6158. **Magas geinitzi,** Cretaceous Fossil, Malnitz, Bohemia.

6159. **Exogyra reticulata,** Cretaceous Fossil, Zbyslav, Bohemia.

6160. **Exogyra haliotoidea,** Cretaceous Fossil, Korycany, Bohemia.

6161. **Exogyra signioidea,** Cretaceous Fossil, Zbyslav, Bohemia.

6162. **Ostrea diluviana,** Cretaceous Fossil, Korycany, Bohemia.

6163. **Ostrea hippopodium,** Cretaceous Fossil, Korycany, Bohemia.

6164. **Modiola capitata,** Cretaceous Fossil, Leitomischl, Bohemia.

6165. **Cyprina crassitesta,** Cretaceous Fossil, Premyslang, Bohemia.

6166. **Spondylus histrixus,** Cretaceous Fossil, Korycany, Bohemia.

6167. **Spondylus spinosus,** Cretaceous Fossil, Hundorf, Bohemia.

6168. **Lima tecta,** Cretaceous Fossil, Korycany, Bohemia.

6169. **Protocardium hillanum,** Cretaceous Fossil, Korycany, Bohemia.

6170. **Arca gallenni,** Cretaceous Fossil, Korycany, Bohemia.

6171 - **Nerinea cottai,** Cretaceous Fossil, Korycany, Bohemia.

6172 - **Rostellaria parkinsonii,** Cretaceous Fossil, Korycany, Bohemia.

6173 - **Natica caniculata,** Cretaceous Fossil, Korycany, Bohemia.

6174 - **Lima aspera,** Cretaceous Fossil, Korycany, Bohemia.

6175 - **Lima pseudocardium,** Cretaceous Fossil, Korycany, Bohemia.

6176 - **Micraster breviporus,** Cretaceous Fossil, Hundorf, Bohemia.

6177 - **Micraster michelini,** Cretaceous Fossil, Chotzen, Bohemia.

6178 - **Hemiaster plebejus,** Cretaceous Fossil, Chotzen, Bohemia.

6179 - **Cidaris sorigneti,** Cretaceous Fossil, Klamajk, Bohemia.

6180 - **Cidaris vesiculosa,** Cretaceous Fossil, Klamajk, Bohemia.

6181 - **Pentacrinus lanceolatus,** Cretaceous Fossil, Zbyslav, Bohemia.

6182 - **Radiolites saxonicæ,** Cretaceous Fossil, Korycany, Bohemia.

6183 - **Cyrtobolia morchella,** Cretaceous Fossil, Klamajk, Bohemia.

6184 - **Baculites faujasi,** Cretaceous Fossil, Lenesice, Bohemia.

6185 - **Ammonites gargasiensis,** Middle Cretaceous Fossil, Gargas, France.

6186 - **Rhynchonella variabilis,** Middle Cretaceous Fossil, Grand Pie, France.

6187 - **Trigonia crenulata,** Middle Cretaceous Fossil, Le Mans, Sarthe, France.

6188. **Terebratula biplicata,** Middle Cretaceous Fossil, Grand Pie, France.

6189. **Plicatula radiola,** Middle Cretaceous Fossil, Gargas, France.

6190. **Exogyra columba,** Middle Cretaceous Fossil, Le Mans, Sarthe, France.

6191. **Ostrea flabellata,** Middle Cretaceous Fossil, Le Mans, Sarthe, France.

6192. **Cyphonia ficus,** Middle Cretaceous Fossil, St. Florentin, France.

6193. **Ammonites mammillaris,** Middle Cretaceous Fossil, Ardennes, France.

6194. **Solarium gaultianum,** Middle Cretaceous Fossil, Grand Pie, France.

6195. **Rostellaria gaultiana,** Middle Cretaceous Fossil, Grand Pie, France.

6196. **Pleurotomaria gaultiana,** Middle Cretaceous Fossil, Porcien, France.

6197. **Pecten dutemplei,** Middle Cretaceous Fossil, Grand Pie, France.

6198. **Panopaea acutisulcata,** Middle Cretaceous Fossil, Grand Pie, France.

6199. **Trigonia alaeformis,** Middle Cretaceous Fossil, Porcien, France.

6200. **Thetis minor,** Middle Cretaceous Fossil, Porcien, France.

6201. **Rhynchonella quinplicata,** Upper Cretaceous Fossil, Meudon, France.

6202. **Rhynchonella speciosa,** Upper Cretaceous Fossil, Meudon, France.

6203. **Rhynchonella octoplicata,** Upper Cretaceous Fossil, Meudon, France.

6204. **Magas pumilus,** Upper Cretaceous Fossil, Meudon, France.

6205. **Magas striatus,** Upper Cretaceous Fossil, Meudon, France.

6206. **Spondylus spinosus,** Upper Cretaceous Fossil, Meudon, France.

6207. **Crania parisensis,** Upper Cretaceous Fossil, Meudon, France.

6208. **Ostrea vesicularis,** Upper Cretaceous Fossil, Meudon, France.

6209. **Janira quadristriata,** Upper Cretaceous Fossil, Meudon, France.

6210. **Terebratula carnea,** Upper Cretaceous Fossil, Meudon, France.

6211. **Cidaris sp.** (?), Upper Cretaceous Fossil, Meudon, France.

6212. **Belemites mucronatus,** Upper Cretaceous Fossil, Meudon, France.

6213. **Ananchites gibbosa,** Upper Cretaceous Fossil, Meudon, France.

6214. **Holaster pilula,** Upper Cretaceous Fossil, Meudon, France.

6215. **Janira striato-costata,** Upper Cretaceous Fossil, St. Paterne, France.

6216. **Pleurotomaria trochoides,** Upper Cretaceous Fossil, Rennes-les-Bains, France.

6217. **Cyclolites corbierica,** Upper Cretaceous Fossil, La Cadiere, France.

6218. **Janira quinquecostata,** Upper Cretaceous Fossil, St. Paterne, France.

6219. **Hippurites sulcata,** Upper Cretaceous Fossil, Rennes-les-Bains, France.

6220. **Ammonites varians,** Upper Cretaceous Fossil, St. Florentin, France.

6221. **Ostrea frons,** Upper Cretaceous Fossil, La Vallette, Charente, France.

6222. **Ostrea auricularis,** Upper Cretaceous Fossil, La Cadiere, France.

6223. **Hemiaster nasutulus,** Upper Cretaceous Fossil, St. Paterne, France.

6224. **Cyclolites ellipticus,** Upper Cretaceous Fossil, Rennes-les-Bains, France.

6225. **Sphaerulites sauvagesii,** Upper Cretaceous Fossil, Gatigues, Gard, France.

6226. **Sphaerulites radiosus,** Upper Cretaceous Fossil, Perigueux, Dordogne, France

6227. **Terebratula semiglobosa,** Upper Cretaceous Fossil, Ciply, Belgium.

6228. **Rhynconella plicatilis,** Upper Cretaceous Fossil, Ciply, Belgium.

6229. **Trigonosemus palisii,** Upper Cretaceous Fossil, Ciply, Belgium.

6230. **Cidaris faujasi,** Upper Cretaceous Fossil, Maestricht, Holland.

6231. **Ostrea sulcata,** Upper Cretaceous Fossil, Ciply, Belgium.

6232. **Micraster coranguinum,** Upper Cretaceous Fossil, Maestricht, Holland.

6233. **Natica ampla,** Upper Cretaceous Fossil, Maestricht, Holland.

6234. **Terebratula pisum,** Upper Cretaceous Fossil, Maestricht, Holland.

6235. **Terebratula nerviensis,** Upper Greensand Fossil, Tournay, Belgium.

6236. **Terebratula tornacensis,** Upper Greensand Fossil, Tournay, Belgium.

Rhynchonella latissima, Upper Greensand Fossil, Tournay, Belgium.

Pecten passyi, Upper Greensand Fossil, Tournay, Belgium.

Mytilus complana, Upper Greensand Fossil, Tournay, Belgium.

Delphinula spinosa, Upper Greensand Fossil, Tournay, Belgium.

Pleurotomaria texta, Upper Greensand Fossil, Tournay, Belgium.

Pleurotomaria santonensis, Upper Greensand Fossil, Tournay, Belgium.

Galerites subsphaeroidalis, Upper Greensand Fossil, Tournay, Belgium.

Cardium michelini, Upper Greensand Fossil, Tournay, Belgium.

Turbo pictetianus, Middle Cretaceous Fossil, Belegarde, Switzerland.

Trochus convidens, Middle Cretaceous Fossil, Belegarde, Switzerland.

Hemiaster minimus, Middle Cretaceous Fossil, Belegarde, Switzerland.

Terebratula carteroniana, Middle Cretaceous Fossil, Villers-le-lac, Switzerland.

Terebratula collinaria, Middle Cretaceous Fossil, Villers-le-lac, Switzerland.

Lima dubisiensis, Middle Cretaceous Fossil, Villers-le-lac, Switzerland.

Terebratula marcousiana, Middle Cretaceous Fossil, Les Vericeres, Switzerland.

Heteraster oblongus, Middle Cretaceous Fossil, La Presta, Switzerland.

6253. **Rhynchonella multiformis,** Middle Cretaceous Fossil, Les Vericeres, Switzerland.

6254. **Plicatula placunea,** Middle Cretaceous Fossil, La Presta, Switzerland.

6255. **Chrysotile,** Templeton, Ontario County, Canada.

6256. **Slabs with Fossils,** eight miles from Yreka, Siskiyou County, California. J. S. Hearn.

6257. **Cast of a Tooth,** found near Yreka, Siskiyou County, California. J. S. Hearn.

INGALLS' COLLECTION OF INDIAN CURIOSITIES,

Presented by J. Z. Davis.

6258. **Alaska Indian,** seal hook for boat use.

6259. **Alaska Indian,** idol, or "totem," representing three deities.

6260. **Alaska Indian,** idol of wood, representing a bear deity.

6261. **Alaska Indian,** idol of wood, representing a raven deity.

6262. **Apache Indian,** quiver.

6263. **Apache Indian,** rawhide playing cards.

6264. **Apache Indian,** arrows and bows with a sinew on the back.

6265. **Arrapaho Indian,** moccasins of buckskin and rawhide, beaded.

6266. **Arrapaho Indian,** women's moccasins of buckskin and rawhide, beaded.

6267. **Arrapaho Indian,** moccasins and leggings of buckskin, beaded.

6268. **Arrapaho Indian,** women's leggings and moccasins.

6269. **Caddo Indian,** child's moccasins of buckskin, beaded.

6270. **Cheyenne Indian,** war pack-saddle.

6271. **Cheyenne Indian,** child's toy-cradle, handsomely beaded, same shape as full size for actual use.

6272. **Cheyenne Indian,** buckskin leggings, beaded.

6273. **Cheyenne Indian,** women's leggings and moccasins.

6274. **Cheyenne Indian,** war bonnet.

This was the property of "High Back Bear," a prominent Northern Cheyenne brave, and was worn by him at the battle of Goose Creek, Dakota. His horse was shot under him, and he was wounded and barely escaped with his life. The turban has a beaded frontlet, is covered with white swansdown, and ornamented with feathers and a buffalo horn. The pendant is nine feet long, made of eagle feathers fastened into a wide band of red cloth. Worn only on horseback. It was valued by "High Back Bear" at fifty dollars.

6275. **Comanche Indian,** buckskin lariat.

Used for catching horses.

6276. **Comanche Indian,** moccasins of buckskin, beaded.

6277. **Comanche Indian,** war shirt, captured by Isleta Pueblo, a chief of the New Mexican Indians.

6278. **Comanche Indian,** war shirt, profusely ornamented with scalp-lock tresses of hair taken by the former owner from victims he had killed in battle, and fastened to the shirt, which is made of buckskin.

Purchased by G. W. Ingalls in 1875, for twenty dollars, a nominal sum, the owner having previously valued it at one hundred and fifty dollars, having been on the war path in 1873, and prizing it as evidence of his prowess; but he now wished to take the white man's road and sold it to show his white friends his purpose to change his ways. In 1879, Mr. Ingalls saw this man cultivating a patch of corn, and he gave good proof of a changed life.

6279. **Creek Indian,** wooden soup spoon.

6280. **Delaware Indian,** moccasins of buckskin, beaded.

6281. **Delaware Indian,** money puzzle purse of buckskin, beaded.

6282. **Kiowa Indian,** moccasins of buckskin, beaded.

6283. **Kiowa Indian,** war drum, captured from a party of warriors who were raiding in Texas.

6284. **Maricopa Indian,** small tool-basket.

6285. **Maricopa Indian,** bows and arrows, painted.

6286. **Maricopa Indian,** bows and arrows, unpainted.

6287. **Maricopa Indian,** hair brush of reeds.

6288. **Maricopa Indian,** soup spoon.

6289. **Maricopa Indian,** moccasins of rawhide.

6290. **Maricopa Indian,** basket for mixing bread in.

6291. **Maricopa Indian,** basket for mixing bread in.

6292. **Maricopa Indian,** basket for mixing bread in.

6293. **Maricopa Indian,** cradle, for actual use.

6294. **Modoc Indian,** bunch of arrows.

6295. **Modoc Indian,** child's moccasins.

6296. **Modoc Indian,** basket of fine straw, braided with colored worsted.

6297. **Modoc Indian,** bows and arrows.

6298. **Modoc Indian,** woman's hat, made of braided straw and worsted.

6299. **Moqui Indian,** saddle blanket.

6300. **Mojave Indian,** horse-hair lariat.

6301. **Navajo Indian,** silver bracelet, with native engraving.

6302. **Navajo Indian,** brass bracelets, with native engraving.

6303. **Navajo Indian,** horse-hair lariat.

6304. **Navajo Indian,** wool rope.

6305. **Navajo Indian,** blanket, woven on a frame by hand.

This tribe, in 1881, had 700,000 sheep, and sold 800,000 pounds of wool; besides which, they manufactured 100,000 pounds into clothing and blankets.

Nez Perce Indian, child's moccasins.

Nez Perce Indian, ancient wooden pipe.

Nez Perce Indian, model of cradle.

Nez Perce Indian, model of cradle.

Nez Perce Indian, model of woman's dress.

Nez Perce Indian, moccasins, finely finished.

Nez Perce Indian, child's moccasins.

Nez Perce Indian, moccasins.

Nez Perce Indian, bow and arrow.

Nez Perce Indian, gauntlet gloves, embroidered.

Nez Perce Indian, necklace of beads, worn by women.

Nez Perce Indian, necklace and ornaments of beads, worn by men at medicine dances.

Nez Perce Indian, medicine and war drum.

Its original owner was, until 1879, one of the principal warriors and leaders of the Medicine Lodge. His name was Hoosekuits. He was converted to the Christian faith in 1879, and is now a friend of education and the ways of civilized life, and an earnest, active member of the Presbyterian Church. He presented this drum to G. W. Ingalls, with the medicine ornaments No. 6317, to show the whites the things he once valued, but had discarded.

Pah-Ute Indian, bow and arrows for boys.

Pah-Ute Indian, gambling sticks.

Pah-Ute Indian, child's toy winnowing basket.

Pah-Ute Indian, jug of pitch.

This jug, or bottle, is made of willow, the pitch procured from pine trees and used for cementing the inside of water jugs, and for attaching stone heads to arrows, stone knives to handles, etc.

Pah-Ute Indian, water jug, made of willow and pitched inside, so as to be water-tight.

Pah-Ute Indian, feather head-dress, worn by men.

Pah-Ute Indian, bow without sinew on the back.

6326. **Pah-Ute Indian,** bow with sinew on the back.

6327. **Pah-Ute Indian,** comb, brush, and cleaner, the former made of reeds, the latter of cactus.

6328. **Pah-Ute Indian,** bow and quiver full of arrows, some of them with stone heads.

6329. **Pah-Ute Indian,** rabbit net, of twine made from wild flax by the Indians.

6330. **Pah-Ute Indian,** winnowing basket, used to winnow grass and other wild seeds for bread.

6331. **Pah-Ute Indian,** beaded traveling case, used for carrying paints, thread, awls, etc.

6332. **Pah-Ute Indian,** woman's dress, of buckskin, elaborately fringed and beaded; weighs over [illegible] pounds, and took the woman over three months to make it; valued by the maker at three pounds, or sixty to seventy-five dollars.

Represents Indian aristocracy.

6333. **Pah-Ute Indian,** woman's dress, of buckskin, beadless and without ornament, because of the poverty of its owner.

Open at the sides, tied together when on by a buckskin string around the waist; is the sole garment most of the year.

6334. **Pah-Ute Indian,** fire-kindler.

Used by placing the end of the long stick in one of the hollows of the other and then rolling it rapidly between the hands.

6335. **Pah-Ute Indian,** mouse hook.

Used by the old men to catch mice, to be roasted for food.

6336. **Pah-Ute Indian,** beaded feather fan.

Made by the women, but usually carried by the men.

6337. **Pah-Ute Indian,** set of implements for making stone arrow heads.

Frequently used to this day by the old men of Northwest Arizona for this purpose, as these Indians are too poor to obtain firearms.

6338. **Pah-Ute Indian,** women's hats, two, made of braided straw.

[illegible] woman's beaded belt, on leather

6340. **Pah-Ute Indian,** looking-glass bag of buckskin, beaded.

6341. **Pawnee Indian,** saddle blanket, handsomely trimmed.

6342. **Pawnee Indian,** medicine and war rattle, handle beaded, to which is attached a string of deer claws.

This is used at the principal medicine and war dances.

6343. **Pawnee Indian,** horse war ornament, fastened to the tails of horses in battle.

6344. **Pawnee Indian,** comb, made of reeds.

6345. **Pawnee Indian,** bow, arrows, and quiver; bow with sinew back, quiver of wolfskin; was the property of one of the principal chiefs.

6346. **Pawnee Indian,** child's rattle.

6347. **Pawnee Indian,** ox-horn spoon.

6348. **Pawnee Indian,** medicine spoon.

6349. **Pimo Indian,** horsehair bridle reins.

6350. **Ponca Indian,** moccasins of buckskin, beaded.

6351. **Ponca Indian,** pipe and stem, silver mounted.

6352. **Ponca Indian,** bone medicine dance whistle.

6353. **Ponca Indian,** medicine cup.

6354. **Ponca Indian,** soup bowl.

6355. **Ponca Indian,** soup spoon of horn.

6356. **Ponca Indian,** legging band of worsted.

6357. **Ponca Indian,** necklaces, two, made of beads.

6358. **Ponca Indian,** hide and skin scraper, handle of elk-horn.

Used by the original owner for over fifty years.

6359. **Pueblo Indian,** clay turtle.

6360. **Pueblo Indian,** medicine drum.

6361. **Pueblo Indian,** bows and arrows, ornamented for dances.

6362. **Pueblo Indian,** medicine dance rattle, ornamented with bears' claws.

6363. **Pueblo Indian,** fancy woven sash.

6364. **Pueblo Indian,** willow basket.

6365. **Pueblo Indian,** large heavy blanket.

6366. **Pueblo Indian,** moccasins of buckskin.

All made by this tribe are beadless.

6367. **Pueblo Indian,** loom used for weaving blankets on, with blanket partly made.

6368. **Sac and Fox Indian,** silver bracelets, made and rudely engraved by this tribe.

6369. **Sac and Fox Indian,** silver ear-rings with ingenious clasps.

6370. **Sac and Fox Indian,** moccasins, beaded.

6371. **Sac and Fox Indian,** back comb of bone, ornamented.

6372. **Sac and Fox Indian,** silver comb, engraved.

6373. **Sac and Fox Indian,** hair case ; beaded cloth case for the hair when braided.

Usually worn by men.

6374. **Sac and Fox Indian,** moccasins, buckskin, beaded.

Made by Mrs. Goodel, when over eighty years old, who, during the Black Hawk war, swam the Wisconsin River with a babe on her back. The infant was in a blanket which she held by her teeth, while she plunged into the river, holding to the tail of a horse whose rider, an Indian, was pursued by the United States troops. She reached the opposite shore in safety, but was separated from her friends, and hid herself in the woods, subsisting on wild onions for nine days.

6375. **Sac and Fox Indian,** silver finger ring.

6376. **Shoshone Indian,** tobacco and pipe bag, elaborately beaded and fringed.

6377. **Shoshone Indian,** moccasins, heavily beaded.

6378. **Shoshone Indian,** beaded ornament for blankets.

6379. **Shoshone Indian,** beaded buckskin bands (two) for blankets, etc.

6380. **Shoshone Indian,** tobacco and pipe bag.

6381. **Shoshone Indian,** tomahawk pipe, with long beaded pendant.

Was the property of a prominent chief, San Pits, of Northern Utah, who, in 1873, pleaded with G. W. Ingalls to send his tribe good teachers about the Great Spirit and the ways of good whites.

6382. **Sioux Indian,** silver cross, engraved.

6383. **Sioux Indian,** silver neck ornament.

6384. **Sioux Indian,** silver breast-plates (two).

6385. **Sioux Indian,** scabbard, of rawhide, beaded.

6386. **Sioux Indian,** tobacco and pipe bag, of buckskin, ornamented with porcupine quills.

6387. **Sioux Indian,** red stone pipe, with wooden stem, ornamented with colored and braided porcupine quills.

Original owner was a son of the celebrated chief, Young-man-afraid-of-his-horses. This pipe is made of the famous red pipe-stone (catlinite) so highly valued by Indians of all tribes.

6388. **Northern California Indian,** arrow, with stone head.

Fine specimen.

6389. **Motto,** in worsted work, on perforated cardboard, by a Cheyenne girl.

6390. **Ancient Steelyard.**

Used by Indians of New Mexico.

6391. **Ancient Stone Ax.**

6392. **Ancient Hatchet-shaped Indian Stone Implement.**

6393. **Ancient Indian Stone Implements** (two).

6394. **Ancient Indian Stone Implement** (slab).

6395. **Ancient Indian Stone Mortar and Pestle,** Santa Catalina Island, California.

6396. **Indian Money.**

6397. **Bunch of Indian Arrows.**

6398. **Bunch of Indian Arrows.**

6399. **Catlinite,** Pipestone County, Minnesota. Col. G. L. Febiger, U. S. A.

6400. **Stone Ax,** found in Grant County, New Mexico. W. R. Brown.

6401. **Native or Virgin Silver,** on shale containing much iron and lime, Seventy-Six Mine, Grant County, New Mexico. W. R. Brown.

6402. **Michelina insignis,** Rominger, Upper Helders-berg Devonian Fossil, Clark County, Indiana.

6403. **Favosites epidermatus,** Rominger, Corniferous Devonian Fossil, Clark County, Indiana.

6404. **Indian Pipe,** obtained from the Indians at Fort Bowie, said by them to have been brought from the San Carlos Reservation, Arizona. W. S. Holiday.

6405. **Diamondiferous Rock,** Kimberly, South Africa. Gardiner F. Williams.

6406. **Emmonsia (favosites) hemispherica,** Troost, Corniferous Devonian Fossil, Clark County, Indiana.

6407. **Michelinia cylindrica** (Ed. and H.), Corniferous Devonian Fossil, Louisville, Kentucky.

6408. **Turbo variabilis,** recent shell, Fiji Islands. Dr. Thomas Porter.

6409. **Cypræa umbilicus,** recent shell, Tasmania. Dr. Thomas Porter.

6410. **Strombus gigas,** Lam., recent shell, Mediterranean.

6411. **Nautilus paper sailor,** Lam., recent shell, Mediterranean.

6412. **Ferruginous Quartz with Free Gold,** Hoxie's Mountain Vein Mine, Free Gold Gulch, thirty-six miles east of Madera, Fresno County, California. J. F. Johnson.

6413. **Gold associated with Sulphurets,** Excelsior Mine, Meadow Lake, Nevada County, California. H. H. Huntley.

6414. **Gold in Quartz,** Hite's Mine, Mariposa County, California. G. W. Barley.

6415. **Gold in Conglomerate, or Breccia Bowlder,** found in cleaning up gravel. John H. Riddell.

The gold is rounded as if water-worn. Its presence in the specimen is difficult to account for. Many similar nodules have been found on the bedrock in hydraulic mining at the locality, Soda Bar, East Branch of the North Fork of Feather River, Plumas County.

6416. **Bar of Metal,** copper and nickel, smelted from the ore of the London Nickel Mine, Churchill County, Nevada. Reduced and presented by F. Holm.

6417. **Indian Paddles** (two), found in a canoe picked up adrift off the Mexican Coast, by the schooner Golden Fleece, made of Mexican cedar. H. F. Stivers.

6418. **Cross Section of the Heart of an Australian Iron Bark Tree.** H. S. Durden.

6419. **Cross Section of a Maple Burl,** from Smith's River, Del Norte County, California. A. Germon & Co.

6420. **Cedar,** Australian Coast, north of Sidney, New South Wales. J. M. Fisher.

6421. **Model of an Apple** in marble, Italy.

6422. **Model of an Apple** in marble, Italy.

6423. **Model of a Plum** in marble, Italy.

6424. **Model of a White Fig** in marble, Italy.

6425. **Model of a White Fig** (dried) in marble, Italy.

6426. **Model of a Black Fig** in marble, Italy.

6427. **Model of half a Lemon** in marble, Italy.

6428. **Model of a Plum** in marble, Italy.

6429. **Model of a Fig** in marble, Italy.

6430. **Model of an Orange** in marble, Italy.

6431. **Grayish-white Pozzuolana,** being impalpable volcanic ashes and fine fragmentary pumice stone, extinct volcanoes of Campania, Pleistocene system, Glacial series, Apennine region, Posillipo, Naples, Italy.

6432. **Minute Gray Pumice Stone,** of rather compact structure, forming thin strata in the midst of stratified volcanic tufa, extinct volcanoes of Campania, Pleistocene system, Glacial series, Apennine region, Naples, Italy.

Much employed in Naples to mix with lime for making foundations, pavements, etc., which are impervious to the action of water.

6433. **Hydraulic Pozzuolana,** extinct volcanoes of Campania, Apennine region, Posillipo, Naples, Italy.

A fair mean of all the white pumiceous pozzuolana from Naples.

6434. **Impalpable Ash-gray Pozzuolana,** found with minute gray pumice stone, and sometimes alone, interstratified locally in the midst of volcanic tufa, extinct volcanoes of Campania, Pleistocene system, Glacial series, Apennine region, Villa Delgiudice, Posillipo, Naples, Italy.

It is simply volcanic ashes, which fell like rain at the close of the final eruption of the volcano. An excellent pozzuolana for hydraulic purposes.

6435. **Gray Fragmentary Pumice Stone and Volcanic Ashes,** found interstratified in the midst of the volcanic tufa of Posillipo, extinct volcanoes of Campania, Pleistocene system, Glacial series, Apennine region, Villa Delgiudice, Posillipo, Naples, Italy.

Employed largely as pozzuolana, just as it is, for building purposes, hydraulic work, pavements, foundations, and other uses.

6436. **Grayish pumice stone** of very cellular structure, but not fibrous like that from many other eruptions, Island of Ischia, Pleistocene system, Apennine region, Monte Epomeo, San Lorenzo, Lacco Ameno, Naples, Italy.

Found in the midst of pale-yellowish or grayish volcanic tufa. Useful for mixing with mortar for making impervious foundations.

6437. **Dark-gray Peperino,** containing lamellar fragments of biotite, granular iserine, and numerous other fragmentary minerals, extinct volcanoes of Latium, Pleistocene system, Glacial series, Marino, Rome, Italy.

This is a much quarried building stone, especially adapted for certain architectural purposes, such as for balconies, steps, door and window posts, sills, and slabs of various kinds, as well as brackets. It produces an excellent artistic effect, and is largely employed in Rome.

6438. **Compact Reddish-brown Volcanic Tufa,** containing some opaque white spots, generally very minute, extinct volcanoes of Latium, Pleistocene system, Glacial series, Apennine region, Rome, Italy.

Like the other specimen (No. 6439), it is an excellent building material of immense durability, but cannot be cut with sharp angles. The quarries at Rome are of very great antiquity.

6439. **Compact Yellowish-red Volcanic Tufa,** containing particles of a somewhat brighter tint, extinct volcanoes of Latium, Pleistocene system, Glacial series, Apennine region, Rome, Italy.

A splendid and economical building stone, easily quarried, and hardening somewhat by age, but cannot be cut with sharp angles. It has been employed for two thousand years, five hundred years in edifices still existing.

6440. **Pale Brownish-yellow Volcanic Tufa,** containing here and there decomposed lapilli of almost the same color, and a few fragmentary lamellæ of biotite, extinct volcanoes of Latium, Pleistocene system, Glacial series, Apennine region, Rome, Italy.

Though it has for ages been employed in Rome as a building material, it is far inferior in quality and durability to several other varieties.

6441. **Umber-brown Volcanic Tufa,** containing abundance of minute opaque white spots, and occasional fragments of biotite crystals, extinct volcanoes of Latium, Pleistocene system, Glacial series, Apennine region, Rome, Italy.

Has been extensively employed, since the earliest days of regal Rome, as a building stone of great durability.

6442. **Very Soft Pale Yellowish-white Tufa,** extinct volcanoes of Latium, Pleistocene system, Glacial series, Apennine region, Marino, Rome, Italy.

Employed in Rome as a building stone, but it is not so durable as some of the varieties of tufa quarried at Rome.

6443. **Pale Whitish-yellow Volcanic Tufa,** inclosing fragments of decomposing pumice stone, extinct volcanoes of Campania, Pleistocene system, Glacial series, Apennine region, Villa Delgiudice, Posillipo, Naples, Italy.

A splendid stone for all building purposes where not exposed to the prolonged action of winds charged with marine salts; can be cut or sawn with great facility. Being very light, it is largely used for vaults of houses.

6444. **Compact Brownish-yellow Volcanic Tufa,** containing minute lapilli and decomposing pumice stone, extinct volcanoes of Campania, Pleistocene system, Glacial series, Villa Delgiudice, Posillipo, Naples, Italy.

A very excellent and extremely durable variety of tufa, and extensively employed; admirably adapted, from its economy, for all ordinary work.

6445. **Pale Brownish-yellow Volcanic Tufa,** containing large fragments of undecomposed white pumice stone, extinct volcanoes of Campania, Pleistocene system, Glacial series, Apennine region, Piedigrotta, Naples, Italy.

An excellent building material; also applicable for vaults. It is preferable to employ it where not exposed to the action of sea winds.

6446. **Pale Grayish-white Volcanic Tufa,** inclosing fragments of undecomposed white pumice stone, extinct volcanoes of Campania, Pleistocene system, Glacial series, Apennine region, Piedigrotta, Naples, Italy.

Employed as a good building stone, very inexpensive and light, and superior in quality to the yellow varieties from the hill of Posillipo.

6447. **Yellowish Volcanic Tufa,** containing small fragments of pumice stone, partly undecomposed, partly decomposed by acid vapors, extinct volcanoes of Campania, Pleistocene system, Glacial series, Apennine region, Piedigrotta, Naples, Italy.

An excellent building stone, though not the best of what is quarried at Naples.

6448. **Pale Grayish-white Volcanic Tufa,** inclosing fragmentary white pumice stone, extinct volcanoes of Campania, Pleistocene system, Glacial series, Apennine region, Piedigrotta, Naples, Italy.

A very inferior and too soft kind of tufa to be durable, incapable of supporting great weight, its crushing equivalent being low.

6449. **Volcanic Tufa,** of a very slight greenish-gray tint, inclosing small fragmentary pieces of decomposed pumice stone of a pale yellowish-brown color, Pleistocene system, Apennine region, from the northern flanks of the Epomeo, Casamicciola, Island of Ischia, Naples, Italy.

6450. **Pale Argillaceous Yellowish-white Volcanic Tufa,** Pleistocene system, Apennine region, from the flanks of Epomeo, Lacco Ameno, Island of Ischia, Naples, Italy.

A very good building stone where lightness is required, combined with great economy of quarrying.

6451. **Entirely Decomposed Trachyte,** from the flanks of the Epomeo, reduced to an impalpable grayish-white chalk-like rock. Extinct tertiary volcanoes, Pleistocene system, Apennine region, from the spring of the Cocicola, Casamicciola, Island of Ischia, Naples, Italy.

The decomposition rather less complete than in the other specimen from this locality, shows the progress of the decomposition.

6452. **Oppicalcite,** consisting of fragments of dark green serpentine and opaque-white calcite, imbedded in pale green steatitic cementing matter, termed "Verde antico," Rome, Italy. Ancient.

6453. **Leek-green Oppicalcite,** inclosing small fragments of dark green serpentine and opaque-white calcite in spots, termed "Verde antico," Rome, Italy. Ancient.

6454. **Oppicalcite,** consisting of fragments of dark green serpentine breccia, inclosed in somewhat greenish-gray crystalline marble, Rome, Italy.

6455. **Compact Deep Brownish-red Marble,** with bold yellowish-red spots, Rome, Italy.

6456. **Pale Bluish-gray and Opaque-white Brecciated Marble,** of great variety of tints, with liver-colored ground, termed "Breccia di Lepre," Rome, Italy.

6457. **Compact Marble,** with clouded purple-red ground, intermixed with grayish-white markings and yellowish-red spots, Rome, Italy. Ancient.

6458. **Minute Yellowish-gray Breccia,** of compact structure, with fine brown and yellowish-brown veins, termed "Marmo corellino," Rome, Italy. Ancient.

6459. **Compact Breccia,** inclosing fragments of pale flesh-colored, gray, and reddish-yellow limestone, and bluish-gray calcite markings, imbedded in dark brownish-red cementing matter, termed "Marmo Porto Santa brecciata," Rome, Italy. Ancient.

6460. **Reddish-brown Oppicalcite,** with very varied and handsome white and grayish-white veins of calcite, Rome, Italy.

6461. **Breccia,** consisting of fragments of milk-white and peach-blossom colored marble, united by greenish-gray schistose matter, termed "Marmo fior di persico," Rome, Italy. Ancient.

6462. **Impure Polychromic Marble,** of finely crystalline structure, consisting of various shades of white and flesh-colored (evidently the result of the action of heat artificially applied to whitish marble), and traversed by dark purple-reddish veins, termed "Marmo sette basi," Rome, Italy. Ancient.

6463. **Banded Stalactite,** of great beauty, with alternations of ivory-white, gray, pale-yellow, and brown, termed "Alabastro orientale," Rome, Italy.

6464. **Concretionary Opaque Stalactite,** yellowish-white, pale, and dark brown, and pale yellow, termed "Alabastro orientale," Rome, Italy.

6465. **Clouded Concretionary nearly Opaque Stalactite,** white, brown, and pale yellowish-brown, termed "Alabastro orientale," Rome, Italy.

6466. **Somewhat Translucent Stalactite,** gray, brownish-white, and dark yellowish-brown, termed "Alabastro orientale," Rome, Italy.

6467. **Very Handsome Opaque Concretionary Stalactite,** cream white, and brownish-purple, termed "Alabastro orientale ad occhio," Rome, Italy. Ancient.

6468. **Breccia,** consisting of small fragments of finely crystalline white marble, inclosed in brownish-red cementing matter, Rome, Italy.

6469. **Compact Yellowish-brown Fossiliferous Marble,** with impure yellowish-white markings, termed "Brocatella di Spagna," Rome, Italy. Ancient.

6470. **Marble Conglomerate,** consisting of thickly set small pieces of crystalline white marble, united by purplish-brown cementing matter, termed "Pavonaggo marble," Rome, Italy.

6471. **Marble Conglomerate,** consisting of small pieces of white and grayish crystalline marble, imbedded in abundant liver-colored micaceous cementing matter, Rome, Italy. Ancient.

6472. **Breccia,** consisting of minute fragments of crystalline white marble, imbedded in deep brownish-red cementing matter, Rome, Italy.

6473. **Breccia,** formed of minute fragments of pale-yellow marble, united by yellowish-red cementing matter, Rome, Italy.

6474. **Pale Yellow Compact Marble,** pervaded by numerous veins and markings of grayish-white crystalline calcite, Rome, Italy.

6475. **Bright Yellow Marble,** of compact structure, traversed by minute flaws, subsequently filled up by brownish-red earthy matter, Rome, Italy.

6476. **Compact Marble,** of uniform ochre-yellow color, Rome, Italy. Ancient.

6477. **Breccia,** formed of fragments of dark-yellow marble of compact structure, with yellowish-red cementing matter in small proportions, Rome, Italy.

6478. **Deep Red and Yellowish-red Breccia,** inclosing fragments of gray and flesh-colored marble, termed "Marmo Porta Santa," Rome, Italy. Ancient.

6479. **Compact Marble,** of a variety of tints of bluish-gray, pale yellowish-brown, and flesh-color, Rome, Italy.

6480. **Black and White Rock allied to Oppicalcite** in which the cementing matter is opaque white calcite, Rome, Italy. Ancient.

6481. **Compact Black Marble,** free from spots, Rome, Italy.

6482. **Yellowish-gray Brecciated Marble,** of compact structure inclosing blackish-gray fragments, from the Monte Gargano, near San Marco in Lamis, Capitanata, Italy.

A handsome and durable ornamental stone.

6483. **Compact Cream-colored Brecciated Marble,** the fragments cemented by fine lines or markings of a delicate yellowish-brown color, Tyrol, Austria.

A very pleasing ornamental stone, which takes a good polish, but the colors are rather pale.

6484. **Brownish-red Oppicalcite,** of very compact structure, with dark serpentinous spots and markings of white crystalline calcite, Rome, Italy.

6485. **Breccia,** consisting of crystalline white marble fragments, with bluish-purple cementing matter, Rome, Italy.

Probably obtained from near Stazzena, Province of Lucca.

6486. **Yellow, Brown, Gray, and White Stalactite,** termed "Alabastro orientale," Civita Vecchia, Rome, Italy.

An extremely handsome and rare variety.

6487. **Fringed Cipollino Marble,** consisting of zigzag alternations of grayish-white crystalline marble, and dark leek-green schistose matter, termed "Cipollino," Rome, Italy.

6488. **Specimen of Florentine Mosaic in Marble,** Florence, Italy.

6489. **Magnolia Wood.** H. S. Durden.

6490. **Stibnite,** in fine crystals, Ojóinmura Niigori, Province of Tyo, Japan.
From the University of Tokio, Japan.

6491. **Orthoclase,** Amazon stone, Pike's Peak, Colorado.

6492. **Brucite,** Texas, Pennsylvania.

6493. **Wernerite,** Massive Scapolite, (pink), Bolton, Massachusetts.

6494. **Pyrolusite,** crystallized, Barton County, Georgia.

6495. **Datolite** crystals with Calcite crystals, Bergen Hill, New Jersey.

6496. **Dolomite,** with Pyrite, Isle of Man.

6497. **Hematite,** Micaceous Iron, Ishpenning, Michigan.

6498. **Vesuvianite,** Woodstock, Maine.

6499. **Manganite,** Marquette, Lake Superior, Michigan.

6500. **Hematite,** variety Specular Iron, Island of Elba.

6501. **Celestine,** on Sulphur, Island of Sicily.

6502. **Gothite,** called "Wood Ore," Superior mine, Michigan.

6503. **Apophyllite,** Bergen Hill, New Jersey.

6504. **Pyroxene,** crystal, Quebec, Canada.

6505. **Phlogopite,** crystals, Burgess, Canada.

6506. **Chalcopyrite,** French Creek mines, Chester County, Pennsylvania.
This mineral was imbedded in Calcite, which was removed by solution in acids.

6507. **Forsterite,** Boltonite, Bolton, Massachusetts.

6508. **Amphibole,** Edenite, Edensville, New York.

6509. **Garnets,** Brunswick, Maine.

6510. **Tourmaline,** Pierrepont, New York.

6511. **Cassis Rufus,** shell, upon which a cameo has been engraved. Collection illustrative of the process of cameo cutting in Italy. J. Z. Davis.

6512. **Cassis Cameo,** shell, upon which a cameo has been engraved. Collection illustrative of the process of cameo cutting in Italy. J. Z. Davis.

6513. **Epidote,** crystals, Warren, New Hampshire.

6514. **Group of Quartz Crystals,** rock crystal, very large and very fine; said to be the finest cluster ever found in America, Hot Springs, Arkansas.

6515. **Core of Obsidian,** from which chips have been broken and used in the manufacture of knives and arrow points, found near Mono Lake, Mono County, California, where large deposits of obsidian occur.

6516. **Gold in Cement,** from the Pioneer Hydraulic Mine, Sierra County, California. W. S. Chapman, and S. C. Houghton.

6517. **Foliated Serpentine,** altered to Picrolite, found in considerable quantity in Mendocino County, Township 19 north, Range 10 west, Mt. Diablo meridian, California. Samuel Gregory.

6518. **Silver Ore,** average specimen, from the Calistoga or Venus Mine, near the Toll House, on St. Helena Mountain, Napa County, California.

6519. **Rock Specimen,** from the summit of Mt. St. Helena, altitude 4,343 feet. It rises in columns like basalt, in large outcrops; the whole summit of the mountain is of this formation. The soil produced by its disintegration is of a pale green color. Napa County, California.

6520. **Rock resembling Halleflinta,** found on the sides of Mt. St. Helena, Napa County, California.

6521. **Rock Specimen,** from the side of Mt. St. Helena, Napa County, California.

6522. **Rock Specimen,** from the side of Mt. St. Helena, Napa County, California.

6523. **Brecciated Quartz,** vein matter, Calistoga or Venus Mine, Mt. St. Helena, Napa County, California.

6524. **Silicious Mineral, or Rock,** probably a deposition by hot mineral water, solfatara, Manhattan Quicksilver Mine, Napa County, California. Knox & Osborn.

6525. **Silicious Mineral, or Rock,** probably a deposition from hot mineral water. This specimen is opaque, and shows the spread of solfataric action about the orifices, round the mouths of which little ridges of silica have been deposited. Manhattan Quicksilver Mine, Napa County, California. Knox & Osborn.

6526. **Rock Specimen,** with veins of cinnabar, Manhattan Mine, Napa County, California. Knox & Osborn.

6527. **Wall Rock,** Manhattan Mine, Napa County, California. Knox & Osborn.

6528. **Nodule,** in porphyritic rock, side of Mt. St. Helena, Napa County, California.

Not uncommon in this rock. A similar one, found at the same locality, had a groove cut in it, and resembles a stone ax; but the finding of similar nodules throws much doubt on its being such.

6529. **Silicified Wood,** Mt. St. Helena, Napa County, California.

6530. **Gold,** from the ocean beach, San Francisco, California.

This specimen has been melted and rolled out.

6531. **Chilcoot (Alaska) Indian Spoon.** R. A. Young.

6532. **Model of the Aztec Sacrificial Stone.** The original was discovered December 17, 1791, in digging a sewer in the chief plaza of the City of Mexico. J. Z. Davis.

Its Aztec name was Cuauhxicalli de Tizoc, meaning the "Eagle's drinking cup of Tizoc," the seventh King of Mexico, who reigned from 1481 to 1486; and it is commemorative of his victories. Upon it human sacrifices were offered at intervals by an order of nobles, who called themselves "The Eagles," and whose patron was the sun. The victim, who was dispatched with obsidian knives amid imposing ceremonies, was called "the messenger to the sun."

6533. **Black Basalt,** of which the originals of Nos. 5310 and 6532 are made.

6534. **Ancient Aztec Sacrificial Knives of Obsidian,** Valley of Mexico. J. Z. Davis.

6535. **Ancient Aztec Sacrificial Knives of Obsidian,** Valley of Mexico. J. Z. Davis.

6536. **Ancient Aztec Sacrificial Knives of Obsidian.** Valley of Mexico. J. Z. Davis.

6537. **Card,** containing four cores of Obsidian, and two knives split from them, by the ancient Aztecs of the Valley of Mexico. J. Z. Davis.

6538. **Shell Cameo,** illustrative of the process of cameo cutting in Italy. (See 6511, 6512.) J. Z. Davis.

6539. **Shell Cameo,** illustrative of the process of cameo cutting in Italy. (See 6511, 6512.) J. Z. Davis.

6540. **Vanadinite,** Yuma Mine, 14 miles west of Tucson, Arizona. Charles R. Wores.

6541. **Large Fossil Oysters,** near Hollister, San Benito County, California. G. G. Johnson.

6542. **Auriferous Pyrite,** in Talcose Slate, with foliated talc, Suffolk Mine, Angels' Camp, Calaveras County, California. J. S. Bacon.

6543. **Gold,** in Talcose Slate with quartz, Suffolk Mine, Angels' Camp, Calaveras County, California. J. S. Bacon.

6544. **Gold,** in Steatite, Suffolk Mine, Angels' Camp, Calaveras County, California. J. S. Bacon.

6545. **Jaw and Tooth** of a large mammal (Mastodon?), not determined, found in auriferous gravel under lava, in the Magalia Drift Mine, Magalia, Butte County, California. J. D. La Monte.

6546. **Phallic Emblem** (?) found on the Mojave Desert, Los Angeles County, California. Wm. Bateman.

6547. **Core of Obsidian,** near C. Schaffer's place, Pope Valley, Napa County, California.

6548. **Arrow Head** of Obsidian, near C. Schaffer's place, Pope Valley, Napa County, California.

6549. **Stone Implement,** probably of accidental form, but used for some purpose, as wax may still be seen on the convex surface; found at Koskem's Sound, northwest coast of Vancouver Island, four feet underground, by Charles D. Simpson, and presented by I. Bluxome, Jr.

6550. **Iron Spur,** found with 6549, by Charles D. Simpson, and presented by I. Bluxome, Jr.

6551. **Obsidian Pebbles,** from Eagle Lake, Lassen County, California, found in the debris of lava, probably the same as No. 6142. A. L. Knowlton.

6552. **United States Patent,** written on parchment, to land in the Territory of Illinois, signed by James Monroe, President, and dated August 5, 1818. Presented by T. S. Price.

6553. **Cannon Ball,** from the battle field of New Orleans, (Chalmette). Presented at New Orleans by W. H. Jessup.

6554. **Gold Quartz,** From the Black Hills, Dakota. Presented by J. G. Fair.

6555. **Silver Ore,** showing free silver, Alice mine, Butte City, Montana. Charles Hill.

6556. **Furnace Product,** Realgar and Orpiment. Charles Hill.

6557. **Cement Copper,** Lancha Plana, Calaveras County, California.

6558. **Native Copper and Cuprite,** Coast Range, near San Luis Obispo, California. F. Adams.

6559. **Horseshoe,** made from iron made in a Catalan furnace at a forge near Hemptown, Gilmer County, Georgia.

For description of furnace see fifth annual report of the State Mineralogist, folio 123.

6560. **Specimen of Gold in Cement,** Spring Valley Hydraulic Mine, Cherokee, Butte County, California. Louis Glass.

6561. **Gold Quartz,** from the Sierra Buttes Mine, Sierra County, California, extracted in 1857. Gus. Reis.

6562. **Garnets,** in mica schist, Reed Ranch, Marin County, California. Chas. Robinson.

6563. **Actinolite,** Reed Ranch, Marin County, California. John Bryant.

6564. **Rich Gold Specimens,** from the Manzanita Mine, Colusa County, California. The gold is associated with cinnabar and bitumen. C. B. Hughes.

6565. **Metallic Copper** (float), Coast Range, San Luis Obispo County, California. J. Adams.
One piece was found weighing 373 pounds.

6566. **Chromic Iron Ore,** Deer Creek, Tulare County, California. Domingo Peño.

6567. **Chromic Iron Ore,** near Colfax, Nevada County, California.

6568. **Chromic Iron Ore,** Cherokee Creek, one fourth of a mile southeast of Brandy City, Sierra County, California. John J. Williams.

6569. **Chromic Iron Ore,** Chiles Valley, Napa County, California. D. K. Doble.
Forty tons said to be in sight.

6570. **Chromic Iron Ore,** Fresno County, California. J. W. Ferguson.

6571. **Chromic Iron Ore,** near Campo Seco, Calaveras County, California. Mr. Berger.

6572. **Chromic Iron Ore,** French Gulch, near Domingo Creek, Calaveras County, California. John Saltuari.

6573. **Magnetite,** six miles from Calpella, Mendocino County, California. P. R. Kline.

6574. **Limonite** (yellow ochre), discovered in 1851, relocated in 1883, twelve miles northeast from Shingle Springs, El Dorado County, California. William Troop.

6575. **Limonite** (pipe iron ore), Trigg County, Kentucky. Exchange.

6576. **Pyrolusite,** found just south of St. Mary's College, Peninsula of San Francisco, California. P. J. Healy.

6577. **Magnetite,** Fresno County, California.

6578. **Psilomelain and Limonite,** Santa Clara County, California. James Enright.

6579. **Nodule of Limonite,** Shore of San Francisco Bay, at Vallejo Junction. Samuel Kellett.

6580. **Magnetite,** Los Angeles County, California. H. Hughes.

6581. **Silicified Wood** (peculiar), Placer County, California.

6582. **Manganite,** Marquette, Lake Superior, Michigan.

6583. **Wernerite,** Scapolite crystal, Bolton, Massachusetts.

6584. **Beryl,** large crystal, Rayburn County, Georgia. Exchange.

6585. **Asbestus,** Fine Gold Gulch, Fresno County, California. Mrs. A. M. Ulyard.

6586. **White Rose and pieces of Moss,** taken from the coffin of Abraham Lincoln, on the day of his funeral. Presented by S. W. Collins.

6587. **Asbestus,** near Fresno Flat, Fresno County, California.

6588. **Talc** (Steatite, French Chalk), used by tailors for marking on cloth.

6589. **Singular Concretion,** resembling a geode, Bottle Hill, El Dorado County, California. J. Z. Davis.

6590. **Foliated Talc,** near Auburn, Placer County, California. S. Strong.

6591. **Obsidian Chips**, of frequent occurrence in Owen's Valley and the Mojave Desert.

6592. **Tourmaline** (Schorl), with quartz and feldspar, Fine Gold Gulch, Fresno County, California. Mrs. A. M. Ulyard.

6593. **Cat's Eye**, a variety of quartz from Africa, cut to show the play of colors. J. Weyl.

6594. **Brown Coal** (Lignite), from vein near Lancha Plana, Calaveras County, California.
See fourth annual report State Mineralogist.

6595. **Coal or Lignite**, near Eureka, Humboldt County, California. William Ayres.

6596. **White Fluor-Spar**, Livingston County, Kentucky. Exchange.

6597. **Group of Crystals of Bichromate of Potash**, made in Scotland, probably from California Chromic Iron. Jas. McTear.

6598. **Selenite**, Gypsum, Soledad Cañon, Los Angeles County, California.

6599. **Selenite**, Gypsum, Cholame, San Luis Obispo County, California. Wm. Adams.

6600. **Hanksite**, Anhydrous sulphate and carbonate of soda, formerly thought to be Thenardite, and so entered in Catalogue, No. 2040. Hanksite is fully described in the fifth annual report of the State Mineralogist, pages 62–65. Teel's Marsh, Esmeralda County, Nevada. F. M. Smith.

6601. **Hanksite**, formerly No. 2736, which see.

6602. **Native Alum** (?), Death Valley, Inyo County, California. J. M. Keeler.

6603. **Barite**, Sulphate of Baryta, Daggett, San Bernardino County, California.

6604. **Vanadinite and Wulfenite**, Red Cloud Mine, Silver District, Yuma County, Arizona. J. Downes Wilson.

6605. **Wolframite,** entered in Catalogue, No. 3731, as Ilmenite, since examined and found as above, twenty miles south of Mariposa, near Buchanan, Mariposa County, California. R. B. Thomas.

6606. **Erythrite,** Cobalt Bloom, Bernardino Range, ——— County, California. Quartz Johnson.

6607. **Tooth,** found on Section 33, Township 22 south, Range 16 east, Mt. Diablo meridian. Found in a large bowlder in Canores Cañon. H. T. Compton.

6608. **Rock containing fossil turritella,** found three miles from No. 6607. Fossils are very abundant at this locality. H. T. Compton.

6609. **Spear Point of Obsidian,** very perfect, found in a creek at Santa Rosa. A. W. Dana.

6610. **Cancrinite,** Litchfield, Maine. H. M. Maling.

6611. **Zircon,** Litchfield, Maine. H. M. Maling.

6612. **Sodalite,** Litchfield, Maine. H. M. Maling.

6613. **Elæolite,** Litchfield, Maine. H. M. Maling.

6614. **Iron Lime Garnet** (?), found near the Temescal Tin Mine, San Bernardino County, California. C. C. Clusker.

6615. **Sulphate of Alumina,** Desert of Atacama, Chile. W. C. Quimby.

6616. **Silver Ore,** Contest Mine, Tucson Mining District, near Nogales, Arizona. J. C. Colley.

6617. **Native Copper,** coated with cuprite, Longfellow Copper Mine, Clifton, Arizona. S. Heydenfeldt, Jr.

6618. **Melaconite, Malachite, Azurite, and Chrysocolla,** in roughly concentric layers in a single specimen, Longfellow Copper Mine, Clifton, Arizona. S. Heydenfeldt, Jr.

6619. **Mariposite,** with veins of white quartz, which has been shipped in considerable quantities to China from Mariposa County, said to be for use in making porcelain ware. Quartz Johnson.

6620. **Aztec Baked Clay Heads,** dug up in the State of Colima, Mexico. Captain Charles Chapman.

6621. **Aztec Baked Clay Heads,** dug up in the State of Colima, Mexico. Captain Charles Chapman.

6622. **Lava,** from the Volcano of Colima, State of Colima, Mexico. Captain Charles Chapman.

6623. **Water Snake** (?), not determined, Bay of Panama. Captain Charles Chapman.

6624. **Building Stone,** Valley Spring, Calaveras County, California. D. W. C. Morgan.

6625. **Sphene in Albite** (?), Fine Gold Gulch, Fresno County, California. Mrs. A. M. Ulyard.

6626. **Caprock used for Paving Sluices,** worn from thickness of 18 inches by 8 months' use, Spring Valley Mine, Cherokee, Butte County, California. Louis Glass.

6627. **Hydraulic Gravel,** Spring Valley Mine, Cherokee, Butte County, California. Louis Glass.

6628. **Sample of Potters' Clay.** Gladding, McBean, & Co.

6629. **Salt,** Inyo County, California. D. S. Woodhull.

6630. **Adobe from Sutter's Fort,** Sacramento, California.

6631. **Thinolite,** from Ancient Lakes in the Great Basin, Nevada.

6632. **Freestone,** from Stony Brook, near Niles, Alameda County, California, on the property of J. D. Farwell.

It seems to possess many of the qualities which characterize a good building stone. In the quarry where the croppings have long been exposed to the elements, it shows evidences of great durability, as it does laid in the piers and abutments of the railroad bridge which crosses the Alameda Creek near by. This block has been sculptured by Morton A. Edwards, of San Francisco, and was presented by J. D. Farwell.

6633. **Copper Ore,** Hirsch Mine, Inyo County, California. D. S. Woodhull.

6634. **Silver Ore,** Happy-thought Mine, Cerro Gordo, Inyo County, California.

6635. **Silver Ore,** Driver Mine, Darwin, Inyo County, California; value, $150 per ton. D. S. Woodhull.

6636. **Silver Ore,** Defiance Mine, Inyo County, California; value, $200 per ton. D. S. Woodhull.

6637. **Silver Ore,** Defiance Mine, Inyo County, California. D. S. Woodhull.

6638. **Silver Ore,** Defiance Mine, Inyo County, California; value, $120 per ton. D. S. Woodhull.

6639. **Silver Ore,** Defiance Mine, Inyo County, California; value, $75 per ton. D. S. Woodhull.

6640. **Silver Ore,** Superior Mine, Grant County, New Mexico.

6641. **Silver Ore,** Lost Confidence Mine, Iron Mountain, Shasta County, California, seven miles north of Shasta. Camden, Nagle & Co.

6642. **Large and very rich specimen of Gold and Silver Ore.** Gould and Curry Mine, Virginia, Nevada. Presented by the Company.

6643. **Gold Ore,** Chauvin Mine, Tulare County, California.

6644. **Gold Ore,** Hirsch Mine, Inyo County, California. D. S. Woodhull.

6645. **Gold Ore,** "Big" Gold Mine, Sailor Cañon, Placer County, California.

6646. **Gold Ore,** Amador Queen Mine, Amador County, California.

6647. **Gold Ore,** Eureka Mills, Plumas County, California.

6648. **Gold Ore,** Zeile Mine, Amador County, California.

6649. **Gold Quartz,** Keynot Mine, Beveridge, Inyo County, California.

6650. **Deep-water Salt.** A. B. Winegar.

6651. **Pressed Brick,** manufactured by Peterson and Kartschoke, San José, Santa Clara County, California.

6652. **Dressed Slab of Stone.** L. Richardson.

6653. **Falco sparverius,** Sparrowhawk. J. Z. Davis.

6654. **Scops asio,** Mottled Owl. J. Z. Davis.

6655. **Glaucidium passerinum,** Pygmy Owl. J. Z. Davis.

6656. **Antrostomus nuttallii,** Nuttall's Whippoorwill. J. Z. Davis.

6657. **Ramphastos inca,** Toucan. J. Z. Davis.

6658. **Trogonus ambiguus,** Red Billed Trogon. J. Z. Davis.

6659. **Momotus microstephanus,** Motmot. J. Z. Davis.

6660. **Coracias candata,** Long Tailed Roller. J. Z. Davis.

6661. **Cotinga cærulea,** Blue Chatterer. J. Z. Davis.

6662. **Motacilla sulphurea,** Yellow Wagtail. J. Z. Davis.

6663. **Chamæpelia passerina,** Ground Dove. J. Z. Davis.

6664. **Platycercus pennantii,** Broad Tailed Parrot. J. Z. Davis.

6665. **Chrysotes amazonica,** Amazon Parrot. J. Z. Davis.

6666. **Aprosmictus cyanopygus,** King Parrot. J. Z. Davis.

6667. **Psittacus erythacus,** Gray Parrot. J. Z. Davis.

6668. **Melopsittacus undulatus,** male, Undulated Grass Parrakeet. J. Z. Davis.

6669. **Melopsittacus undulatus,** female, Undulated Grass Parrakeet. J. Z. Davis.

6670. **Loriculus galgulus,** Malacca Lorikeet. J. Z. Davis.

6671. **Colaptes mexicanus,** Red Shafted Woodpecker. J. Z. Davis.

6672. **Drycopus martius,** Great Black Woodpecker. J. Z. Davis.

6673. **Centurus rubriventis,** Tricolor Woodpecker. J. Z. Davis.

6674. **Centurus aurifrons,** Golden-fronted Woodpecker. J. Z. Davis.

6675. **Alcedo ispida,** Kingfisher. J. Z. Davis.

6676. **Hirundo horreorum,** Barn Swallow. J. Z. Davis.

6677. **Yunx torquilla,** Wry-neck. J. Z. Davis.

6678. **Rupicola sanguinolenta,** Red Cock of the Rocks. J. Z. Davis.

6679. **Garrulus glandarus,** Jay. J. Z. Davis.

6680. **Coronideus flavirostris,** Yellow-billed Blue Crow. J. Z. Davis.

6681. **Coronideus hyacinthinus,** Black-billed Blue Crow. J. Z. Davis.

6682. **Uroleuca cyanoleuca,** White-tailed Jay. J. Z. Davis.

6683. **Sternella neglecta,** Western Meadow Starling. J. Z. Davis.

6684. **Erythrospar frontalis,** Spotted Lark-heeled Starling. J. Z. Davis.

6685. **Oriolus galbula,** Golden Oriole. J. Z. Davis.

6686. **Icterus cuculatus,** Hooded Oriole. J. Z. Davis.

6687. **Pitangus derbyianus,** Derby's Flycatcher. J. Z. Davis.

6688. **Ampelis garrulus,** Bohemian Waxwing. J. Z. Davis.

6689. **Ampelis cedorum,** Cedar Bird. J. Z. Davis.

6690. **Turdus migratorius,** male, Robin. J. Z. Davis.

6691. **Turdus migratorius,** female, Robin. J. Z. Davis.

6692. **Turdus navius,** male, Varied Thrush. J. Z. Davis.

6693. **Turdus navius,** female, Varied Thrush. J. Z. Davis.

6694. **Turdus palasi,** Dwarf Thrush. J. Z. Davis.

6695. **Turdus swainsoni,** Oregon Thrush. J. Z. Davis.

6696. **Mimus polyglottus,** Mocking Bird. J. Z. Davis.

6697. **Agelæus phœnicus,** Red-winged Starling. J. Z. Davis.

6698. **Chalcophanes minor,** Least Crow Blackbird. J. Z. Davis.

6699. **Xipholena pompadora,** Pampadora Chatterer. J. Z. Davis.

6700. **Saxicola œnanthe,** Wheat ear. J. Z. Davis.

6701. **Collurio excubatorides,** White-rumped Shrike. J. Z. Davis.

6702. **Sayornis nigricans,** Black Flycatcher. J. Z. Davis.

6703. **Eremophila alpestris,** Horned Lark. J. Z. Davis.

6704. **Alanda japonica,** Japanese Lark. J. Z. Davis.

6705. **Cyanecula suecia,** male, Robin Bluebreast. J. Z. Davis.

6706. **Cyanecula suecia,** female Robin Bluebreast. J. Z. Davis.

Cyanecula suecia, young male Robin Bluebreast. J. Z. Davis.

Geocichla auratus, male Robin Yellowbreast. J. Z. Davis.

Geocichla auratus, female Robin Yellowbreast. J. Z. Davis.

Pipra pareola, Black-breasted Manakin. J. Z. Davis.

Cyanistes cyaneus, Blue Titmouse. J. Z. Davis.

Regulus cristatus, Golden Crowned Regulus. J. Z. Davis.

Psaltriparus minimus, Least Titmouse. J. Z. Davis.

Icterus xanthornus, Black-throated Oriole. J. Z. Davis.

Bucephala albeola, Buffle-headed Duck. J. Z. Davis.

Sterna forsterii, Forster's Tern. J. Z. Davis.

Tringoides maculatus, Spotted Sandpiper. J. Z. Davis.

Tringa wilsonii, Least Sandpiper. J. Z. Davis.

Porzana jamacensis, Black Rail. J. Z. Davis.

Ægislites semipalmatus, Semipalmated Plover. J. Z. Davis.

Perdix cinerea, male, Field Partridge. J. Z. Davis.

Perdix cinerea, female, Field Partridge. J. Z. Davis.

Cacabis petrosa, Barbara Partridge. J. Z. Davis.

Coturnix communis, male, Quail. J. Z. Davis.

Coturnix communis, female, Quail. J. Z. Davis.

6726. **Coturnix japonica,** Japanese Quail. J. Z. Davis.

6727. **Excolfactoria chinensis,** Chinese Quail. J. Z. Davis.

6728. **Loxia curvirostra,** male, Cross-bill. J. Z. Davis.

6729. **Loxia curvirostra,** female, Cross-bill. J. Z. Davis.

6730. **Prosthemadera novæ zealandiæ,** Parson-bird. J. Z. Davis.

6731. **Fringilla montifringilla,** Mountain Finch. J. Z. Davis.

6732. **Pyrrhula rubricilla,** male, Bullfinch. J. Z. Davis.

6733. **Pyrrhula rubricilla,** female, Bullfinch. J. Z. Davis.

6734. **Zonotrichia coronata,** male, Golden crested Sparrow. J. Z. Davis.

6735. **Zonotrichia coronata,** female, Golden-crested Sparrow. J. Z. Davis.

6736. **Carduelis elegans,** male, Goldfinch. J. Z. Davis.

6737. **Carduelis elegans,** female, Goldfinch. J. Z. Davis.

6738. **Chrysomitris tristis,** American Goldfinch. J. Z. Davis.

6739. **Euphonia nigricollis,** Black-fronted Tanager. J. Z. Davis.

6740. **Cyanospiza ciris,** Nonpariel. J. Z. Davis.

6741. **Junco oregonensis,** Oregon Snow-bird. J. Z. Davis.

6742. **Cocreba cærulea,** Blue and Black Creeper. J. Z. Davis.

6743. **Calliste cyaneicollis,** Blue-necked Tanager. J. Z. Davis.

6744. **Fringilla canaria,** Canary. J. Z. Davis.

Fringilla canaria, Canary. J. Z. Davis.

Amadina maja, male, Silver-bill. J. Z. Davis.

Amadina maja, male, Silver-bill. J. Z. Davis.

Amadina maja, female, Silver-bill. J. Z. Davis.

Amadina lathami, male, Spotted-sided Finch. J. Z. Davis.

Amadina lathami, male, Spotted-sided Finch. J. Z. Davis.

Ramphocelus chrysonota, Yellow-rumped Tanager. J. Z. Davis.

Ramphocelus jacapa, Maroon Tanager. J. Z. Davis.

Pyranga rubra, Scarlet Tanager. J. Z. Davis.

Dacnis viridis, Verdigris Creeper. J. Z. Davis.

Passerculus savanna, Titlark Sparrow. J. Z. Davis.

Melospiza melodia, Song Sparrow. J. Z. Davis.

Amandava punctulata, Amandavet. J. Z. Davis.

Dicæum rubrum, Red Nectarine. J. Z. Davis.

Dicæum rubrum, Red Nectarine. J. Z. Davis.

Nectarina splendida, Splendid Nectarine. J. Z. Davis.

Nectarina pulchella, Red-breasted Nectarine. J. Z. Davis.

Florisuga atra, Pied Jacobin Humming Bird. J. Z. Davis.

Ramphomicron microrhyncha, Thornbill Humming Bird. J. Z. Davis.

6764. **Ramphomicron microrhyncha,** Thornbill Humming Bird. J. Z. Davis.

6765. **Lampornis mango,** Black-throated Humming Bird. J. Z. Davis.

6766. **Cyanomyia cyanocephala,** White-fronted Humming Bird. J. Z. Davis.

6767. **Stellula calliope,** Calliope Humming Bird. J. Z. Davis.

6768. **Cynanthus cyanurus,** Blue-tailed Sylph Humming Bird. J. Z. Davis.

6769. **Selasphorus rufus,** Rufous-backed Humming Bird. J. Z. Davis.

6770. **Selaphorus rufus,** Rufous-backed Humming Bird. J. Z. Davis.

6771. **Selaphorus anna,** Anna Humming Bird. J. Z. Davis.

6772. **Lophornis magnifica,** Frilled Coquette Humming Bird. J. Z. Davis.

6773. **Chrysuronia oenone,** Oenone Humming Bird. J. Z. Davis.

6774. **Thalurania tschudii,** Tschudii's Wood Nymph Humming Bird. J. Z. Davis.

6775. **Lesbia amaryllis,** Train-bearer Humming Bird. J. Z. Davis.

6776. **Eriocnemis luciani,** Buquet's Puff-leg Humming Bird. J. Z. Davis.

6777. **Trochilus polytmus,** Black-capped Humming Bird. J. Z. Davis.

6778. **Trochilus colubris,** Ruby-throated Humming Bird. J. Z. Davis.

6779. **Heliangelus clarisse,** Sun-angel Humming Bird. J. Z. Davis.

6780. **Chlorostilbon prasinus,** Brazilian Emerald Humming Bird. J. Z. Davis.

Campelopterus delatteri, De'Lattre's Saber-wing Humming Bird. J. Z. Davis.

Gouldia langsdorffi, Langsdorff's Thorntail Humming Bird. J. Z. Davis.

Nest of Anna Humming Bird. J. Z. Davis.

Nest of Anna Humming Bird. J. Z. Davis.

Pipra pareola, Black-breasted Manakin. J. Z. Davis.

Myctea nivea, Snowy Owl. J. Z. Davis.

Myctiardea grisea, Night Heron. J. Z. Davis.

Cormorant. J. Z. Davis.

Sciurus ludovicianus, Western Fox Squirrel. J. Z. Davis.

Sciurus carolinensis, Var. ater. Gray Squirrel, black variety. J. Z. Davis.

Scalops Californicus, California Mole. J. Z. Davis.

Squirrel (Chipmunk). J. Z. Davis.

Mus musculus, House Mouse. J. Z. Davis.

Civet Cat, Brentwood, Contra Costa County, California. J. Z. Davis.

Tortoise. J. Z. Davis.

Domestic Hog. J. Z. Davis.
Raised in Western Virginia; live weight, 1,700 pounds.

Wild Boar, Sus scrofa, var. ferox, France. J. Z. Davis.

Peccary, Dicotyles torquatus, Texas. J. Z. Davis.

Wart Hog (young), Phacochoerus æthiopicus, Northeastern Africa. J. Z. Davis.

Stem of Cactus.

6801. **Curiously Carved Cane.** Jacob Glassman.

6802. **Skull and horns of Mountain Sheep,** male, Alaska. Capt. L. N. Herrendeen.

6803. **Horns of Mountain Sheep,** female, Alaska Capt. L. N. Herrendeen.

6804. **Deer Horns.** J. Z. Davis.

6805. **Deer Horns.** J. Z. Davis.

6806. **Deer Horns.** J. Z. Davis.

6807. **Deer Horns.** J. Z. Davis.

6808. **Head of Bison,** Bos americanus. J. Z. Davis.

6809. **Elk Antler.** Wm. Healy.

6810. **Mesquite Wood,** San Pedro, California. Benj. Hill.

6811. **Olive Wood,** from Mission Santa Cruz. H. S. Durden.

6812. **Teak Wood.** Portion of the wreck of the French brig "Nathalie." Captain T. G. Lambert.

This vessel was built in the East Indies, and after some service there went to France and was employed in the Mediterranean trade. During this time she carried Napoleon Bonaparte and his friends when he escaped from the Island of Elba, previous to the "Hundred Days" and the battle of Waterloo. She was subsequently purchased by the Mexican Government and employed on this coast as a revenue cruiser, and about fifty years ago was wrecked in the Bay of Monterey, Monterey County, California.

6813. **Coffee Wood,** Caffea arabica. J. Z. Davis.

6814. **Serpentine,** Point Tiburon, Marin County, California. J. Z. Davis.

6815. **Model of Noonday Mine,** Bodie, Mono County, California.

6816. **Model of Bodie and Jupiter Mines,** Bodie, Mono County, California.

6817. **Nickel Ore,** London Mine, Churchill County, Nevada. Bell, Curtis, and Mason.

6818. **Coral Snake,** Mexico. H. J. Carson.

An Indian bitten by this snake is said to have died in twenty minutes.

Actinolite, found in the Cemetery in San Francisco.

Williams Cannel Coal, Morgan County, Kentucky. Exchange.

Lignite, Humboldt County, California. Wm. Ayres.
See letter on file.

Coke from St. Bernard Coal, Hopkins County, Kentucky. Exchange.

Coal, St. Bernard, Hopkins County, Kentucky. Exchange.

Linarite, Cerro Gordo, Inyo County, California. D. S. Woodhull.

Model of the Plumas Eureka Mine, Plumas County, California. Wm. Letts Oliver.

Coral Snake, Guatemala. Edward A. T. Gallagher.
When living the colors of this snake were exceedingly brilliant.

Implement, used by the Indians of the Northwest Coast for catching small fish, oolachans or candlefish, which swim near the surface in large shoals.

Wood of Pinus Jeffreyi (Jeffrey's Pine), Oroville, Butte County, California. Dr. Green.

Leaves of Pinus Jeffreyi (Jeffrey's Pine), Oroville, Butte County, California. Dr. Green.

Cones of Pinus Jeffreyi (Jeffrey's Pine), Oroville, Butte County, California. Dr. Green.

Semi-Fluid Crude Gum, as it flows from the Pinus Jeffreyi, Oroville, Butte County, California. Dr. Green.

Volatile Aromatic Liquid "Butine," first product of distillation of the crude gum of Pinus Jeffreyi, Oroville, Butte County, California. Dr. Green.

Solid Gum, residue of first distillation of the crude gum of the Pinus Jeffreyi, Oroville, Butte County, California. Dr. Green.

6834. **Oil,** product of second distillation of gum of Pinus Jeffreyi, Oroville, Butte County, California. Dr. Green.

6835. **Rosin,** residue of second distillation of gum of Pinus Jeffreyi, Oroville, Butte County, California. Dr. Green.

6836. **Argentiferous Galena,** Inyo County, California.

6837. **Pine Wood,** piece of the first wharf built in San Francisco in 1850, which was constructed of imported timber; dug up at the corner of California and Sansome Streets, San Francisco, October 10, 1884. Wm. Waller.

6838. **Staurolite shale,** from near Ellijay, Gilmer County, Georgia.

6839. **Fossil Oyster Shells,** Ostrea titan, Livermore, Alameda County, California.

6840. **Wood of "Big Trees,"** Sequoia gigantea, Madera, Fresno County, California. Mrs. F. G. Berry.

6841. **Wall Rock,** London Nickel Mine, Churchill County, Nevada. Bell, Curtis, and Mason.

6842. **Fossil Vertebræ,** resembling Zeuglodon cetoides, it has not been studied, found in the bank of Tunitas Creek, San Mateo County, California.

6843. **Mammalian Fossil,** resembling the horse, found in eight feet of solid lava, Section 5, Township 4 north, Range 11 east, Mt. Diablo meridian, Messenger Valley, Calaveras County, California.

6844. **Trigonia evansii** (?), with cast. Pale. Cal., Vol. 1, fol. 189, Henley, twenty miles north of Yreka, Siskiyou County, California. F. G. Hearn, M.D.

6845. **Lingula dausii,** Lower Silurian Fossil, Tremadoc Slates, North Wales. Richard Homfray.

6846. **Trilobite** (Niobe homfrayi?), Lower Silurian Fossil, Tremadoc Slates, North Wales. Richard Homfray.

Head of Trilobite (Niobe homfrayi?) Lower Silurian Fossil, Tremadoc Slates, North Wales. Richard Homfray.

Cast of Trilobite, Lower Silurian Fossil, Tremadoc Slates, North Wales. Richard Homfray.

Lower Silurian Fossil, Lowest Llandeilo Slates, North Wales. Richard Homfray.

Trilobite (Asaphus), Lower Silurian Fossil, Tremadoc Slates, North Wales. Richard Homfray.

Calamene blumenbachii, Lower Silurian Fossil, Calamene beds, Dudley, England. Richard Homfray.

Trilobite, Lower Silurian Fossil, Upper Tremadoc Slates, North Wales. Richard Homfray.

Lower Silurian Fossil, Lingula beds, North Wales. Richard Homfray.

Lower Silurian Fossil, Lingula beds, North Wales. Richard Homfray.

Lower Silurian Fossil, Lower Tremadoc Slates, North Wales. Richard Homfray.

Lower Silurian Fossil, Lingula beds, North Wales. Richard Homfray.

Lower Silurian Fossil, Lingula beds, North Wales. Richard Homfray.

Lower Silurian Fossil, Lingula beds, North Wales. Richard Homfray.

Lower Silurian Fossil, Lower Tremadoc Slates, North Wales. Richard Homfray.

Lower Silurian Fossil, Lingula beds, North Wales. Richard Homfray.

Fossil Leaves, Alta Hill, Grass Valley, Nevada County, California, found at a depth of 240 feet, above the gold; ten specimens. Richard Homfray.

6862. **Fossil Leaf,** Janesville, near Honey Lake, Lassen County, California. J. H. L. Eustice.

6863. **Model of the first Gold Nugget** found in California, at Sutter's Mill, on the American River, January 19, 1848.

It was picked up in the tailrace of the mill by Peter L. Wimmer and James Marshall. Mr. Wimmer and his wife crossed the plains from Missouri in 1846. Mr. Wimmer had lived at the gold mines in Georgia, and had seen placer gold. When the nugget was found, Mr. Wimmer said to his son, "take this to your mother and tell her to boil it in her soap kettle," which crude test proved to their satisfaction that it was truly gold. The historical gold excitement, which was followed by such important results, commenced from that moment. The original is now in possession of Mr. W. W. Allen, of 230 Montgomery Street, San Francisco, California.

6864. **Sand,** from the beach, near the whaling station, Monterey, Monterey County, California. J. Z. Davis.

6865. **Garnet Sand,** East River, New York, N. Y. J. Z. Davis.

6866. **Cinnabar,** Great Western Quicksilver Mine, Lake County, California. A. Halsey.

6867. **Silver Ore,** Sheba Mine, Humboldt County, Nevada. A. Halsey.

6868. **Native Quicksilver with Cinnabar,** Rattlesnake Quicksilver Mine, near Pine Flat, Sonoma County, California. A. Halsey.

6869. **Chloropal,** hydrous silicate of iron, alumina, and magnesia, found in lava, Bath, Placer County, California. The Breese & Wheeler Company.

6870. **Magnesite,** of good quality, said to be found in large quantity in Napa County, California, Township 9 north, Range 5 west, Mount Diablo base line.

6871. **Ten varieties of colored Sands,** from a sedimentary deposit at McGregor, Iowa. Ben. Lichenstein.

6872. **Sand,** from opposite the bath house, Santa Barbara, California. J. Z. Davis.

6873. **Sand,** from the beach at Nahant, near Boston, Massachusetts. J. Z. Davis.

6874. **Sand,** from the ocean beach, two miles south of Pescadero, San Mateo County, California. J. Z. Davis.

6875. **Sand and Pebbles,** Long Branch, New Jersey. J. Z. Davis.

6876. **Sand,** from opposite main depot, Monterey, Monterey County, California. J. Z. Davis.

6877. **Tooth of Zeuglodon Cetoides,** Mississippi. Exchange.

6878. **Rock Specimen,** with microscopical section, Union Mine, near San Andreas, Calaveras County, California, believed to be slaty serpentine. J. Rathgeb.

6879. **Bullets,** found in the old powder house, near South Attlebro, Massachusetts, where they had remained since the Revolutionary War. G. W. Curtis.

6880. **Ceratites nodosus,** Jurassic Fossil, Sinsheim, Baden, Germany.

6881. **Ostrea califera,** Mannheim, Baden, Germany.

6882. **Hippurites cornu vaccinum,** Goslar, Hanover, Germany.

6883. **Pecten deformis,** Jurassic Fossil, Pale. Cal., Vol. 1, folio 33, Genesee Valley, Plumas County, California.

6884. **Wulfenite and Vanadinite Crystals,** Silver District, Castle Dome, Arizona. Taylor D. McLeod.

6885. **Topaz,** Flinders' Island, Bass' Straits, Australia. John I. Bleasdale.

6886. **Zygospira modesta** (Say.), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

6887. **Ptilodictya folciformis** (Mch.), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

6888. **Claopora reticulata,** Upper Silurian Fossil, Niagara Group.

6889. **Buthotrephis gracilis** (Hale), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

6890. **Monticulipora o'neili** (James), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

6891. **Lockeia siligmaria** (James), Lower Silurian Fossil, Cincinnati Group, Cincinnati, Ohio.

6892. **Trilobite**, compound eye finely shown, Waldron, Illinois.

6893. **Ammonite**, Shasta County, California. Captain Jay G. Kelly.

6894. **Limonite**, Yellow Ochre, Mission San José, California. W. B. Hughes.

6895. **Lava**, used in building at Mokelumne Hill, Calaveras County, California.

Three varieties. It is a durable and convenient material, and could be more generally utilized.

6896. **Sulphuric Acid**, sample illustrating the manufacture of alkalies in Scotland. James Mactear.

6897. **Muriatic Acid**, sample illustrating the manufacture of alkalies in Scotland. James Mactear.

6898. **Sulphate of Soda**, sample illustrating the manufacture of alkalies in Scotland. James Mactear.

6899. **Soda Ash**, sample illustrating the manufacture of alkalies in Scotland. James Mactear.

6900. **Soda Crystals**, sample illustrating the manufacture of alkalies in Scotland. James Mactear.

6901. **Refined Alkali**, sample illustrating the manufacture of alkalies in Scotland. James Mactear.

6902. **Manganese Oxide**, recovered, sample illustrating the manufacture of alkalies in Scotland. James Mactear.

6903. **Bleaching Powder**, from limestone, sample illustrating the manufacture of alkalies in Scotland. James Mactear.

Manganese Chloride, sample illustrating the manufacture of alkalies in Scotland. James Mactear.

Steatite, Coulterville, Mariposa County, California. W. J. McCarthy.

Of excellent quality, and said to be in large quantities. See letter on file from the donor.

Pyrula dilatata, Cretacio Tertiary Fossil, Isle of Quriquina, Chile.

Ostrea bourgeoisi, Remard, Tertiary Fossil, near the coal mines, Straits of Magellan, Patagonia.

Wall Rock with Fossils, Manzanita Gold Mine, Sulphur Creek, Colusa County, California. J. W. Burling.

Tooth, of an animal, Oreodon(?).

Said to have been found August 1, 1885, by Mr. J. L. Patton, at Alleghany, Sierra County, in a drift 1900 feet in the heart of the mountain, and 700 feet from the top. See letter on file from William Gubble, of Antioch.

Impressions of Leaves, in volcanic ash(?), Calaveras County, California.

Fossil Tooth, found at Buchanan Hill, Butte County, California, in a bed of hard blue gravel, 100 feet deep from the surface. The gravel is about ten feet thick, and the whole is covered with hard lava rock. M. H. Wells.

Rock Salt, Louisiana. James Sorley.

Umbrella, formerly the property of Benjamin Franklin. J. Z. Davis.

Brazilete Wood, Central America. Allen & Co.

Conacaste Wood, Guatemala. A. F. Knorp.

Largely used in Central America as common lumber.

Locust Wood, grown in California, and said to be superior to the eastern grown. M. T. Hubbard.

Chinquapin, Castanopsis chrysophylla, California wood, cross section. H. S. Durden.

Maple, Acer macrophyllum, California wood, cross section. Towle Bros., Alta.

6919. **Live Oak,** Q. wislizenii(?), California wood, cross section. Towle Bros., Alta.

6920. **Alder,** Alnus rubra, California wood, cross section. Towle Bros., Alta.

6921. **Yellow Pine,** P. ponderosa, California wood, cross section. Towle Bros., Alta.

6922. **Olive Wood,** cross section, Mission Santa Cruz, California. H. S. Durden.

6923. **Red Cedar,** Libocedrus decurrens, California wood, cross section. Towle Bros., Alta.

6924. **White Fir,** Abies concolor, California wood, cross section. Towle Bros., Alta.

6925. **Black Oak,** Q. kelloggii, California wood, cross section. Towle Bros., Alta.

6926. **Sugar Pine,** P. lambertiana, California wood, cross section. Towle Bros., Alta.

6927. **Mimosa Wood.** H. S. Durden.

6928. **Chinquapin,** Castanopsis chrysophylla, California wood. H. S. Durden.

6929. **Juniper,** J. occidentalis, California wood. H. S. Durden.

6930. **Live Oak,** Q. wislizenii(?), California wood. Towle Bros., Alta.

6931. **Maple,** A. macrophyllum, California wood. Towle Bros., Alta.

6932. **Pear Wood.** H. S. Durden.

6933. **Almond Wood.** L. Coates.

6934. **Post Oak,** Q. garryana, Puget Sound. H. S. Durden.

6935. **Alder,** Alnus rubra, California wood. Towle Bros., Alta.

6936. **Sugar Pine,** P. lambertiana, California wood Towle Bros., Alta.

. **Yellow Pine,** P. ponderosa, California wood. Towle Bros., Alta.

. **Red Cedar,** Libocedrus decurrens, California wood. Towle Bros., Alta.

. **Tiger Wood.** Jacob Strahle & Co., San Francisco.

. **Douglas Spruce,** Abies douglassi, cross section, California wood. Towle Bros., Alta.

. **Douglas Spruce,** Abies douglassi, California wood. Towle Bros., Alta.

. **White Fir,** Abies concolor, California wood. Towle Bros., Alta.

. **Black Oak,** Q. kelloggii, California wood. Towle Bros., Alta.

. **Laurel,** Oreodaphne californica, California wood, cross section. H. S. Durden.

. **Almond Wood,** cross section. H. S. Durden.

. **Post Oak,** Q. garryana, cross section, Puget Sound. H. S. Durden.

. **Monterey Pine,** P. insignis, cross section, California wood. H. S. Durden.

. **Monterey Pine,** P. insignis, California wood. H. S. Durden.

. **Twenty-five Samples of Cuban Woods,** presented by Thomas W. Boyd, of San Francisco.

. **Kauri Pine,** New Zealand. G. Heuter.

. **Shellac Wood** (?) Calcutta. G. Heuter.

. **Croppings,** from the Lejamani Silver Mine, Department of Comayagua, Honduras. M. A. Soto.

. **Bark of a Tree,** used by the natives as coarse wrapping paper, Honduras. M. A. Soto.

6954. **Silicious Concretions,** Honduras. M. A. Soto.

6955. **Copper Ore,** Xistimai Mine, La Conraiaia, Honduras. M. A. Soto.

6956. **Copper Ore,** Las Trojas Mine, San Francisco de la Paz, Honduras. M. A. Soto.

6957. **Copper Ore,** Ancient Mine in the Cerro del Arimbo, Honduras. M. A. Soto.

6958. **Copper Ore,** Cerro de los Pabones, Manto District, Honduras. M. A. Soto.

6959. **Copper Ore,** Eastern Vein, Manto District, Honduras. M. A. Soto.

6960. **Copper Ore,** Cerro del Nance, vein near the River Gunacaca Olancho, Honduras. M. A. Soto.

6961. **Stalagmite on Rock,** Honduras. M. A. Soto.

6962. **Leaves of Mefastre,** used for making ink, Honduras. M. A. Soto.

6963. **Fiber of Mescal** (Maguey or American Aloe), Honduras. M. A. Soto.

6964. **Fiber of Pita,** Honduras. M. A. Soto.

6965. **Gold Ore,** El Retiro Mine, Olancho, Honduras. M. A. Soto.

6966. **Gold Ore,** San Blas, Olancho, Honduras. M. A. Soto.

6967. **Silver Ore,** Tuscaran, Honduras. M. A. Soto.

6968. **Gold Ore,** El Cacao, Olancho, Honduras. M. A. Soto.

6969. **Gold and Copper Ore,** Santa Barbara, Honduras. M. A. Soto.

6970. **Gold Ore,** Santa Fe, Olancho, Honduras. M. A. Soto.

6971. **Silver Ore,** Barajana, Tegucigalpa, Honduras. M. A. Soto.

6972. **Gold Ore,** La Trinidad, Olancho, Honduras. M. A. Soto.

6973. **Silver Ore,** El Chimbo, Olancho, Honduras. M. A. Soto.

6974. **Silver Ore,** Las Animas, Tegucigalpa, Honduras. M. A. Soto.

6975. **Gold Ore,** Mine of the Virgin, Olancho, Honduras M. A. Soto.

6976. **Copper Ore,** Olancho, Honduras. M. A. Soto.

6977. **Silver Ore,** San Martino, Tegucigalpa, Honduras. M. A. Soto.

6978. **Gold Ore,** El Rosario, Olancho, Honduras. M. A. Soto.

6979. **Gold Ore,** El Estero, Olancho, Honduras. M. A. Soto.

6980. **Gold Ore,** La Concepcion, Olancho, Honduras. M. A. Soto.

6981. **Gold Ore,** Santa Rosa, Olancho, Honduras. M. A. Soto.

6982. **Silver and Gold Ore,** Santa Elena, Tegucigalpa, Honduras. M. A. Soto.

6983. **Fossil Shells,** Copan, Honduras. M. A. Soto.

6984. **Fossil Shells** (Cardium), Honduras. M. A. Soto.

6985. **Fossil Shells,** Honduras. M. A. Soto.

6986. **Gold Quartz,** Ready Relief Mine, Julian, San Diego, California. Bailey Bros.

6987. **Feldspar** (orthoclase), Hunsecker Grade, stage road from San Diego to Julian, San Diego County, California.

6988. **Pegmatite,** Hunsecker Grade, stage road from San Diego to Julian, San Diego County, California.

6989. **Gypsum,** from the salt works, Alameda County, California.

6990. **Hyalite** (semi opal), San Bernardino County, California.

6991. **Anthraconite,** cave at Murphy's, Calaveras County, California.

6992. **Metacinnabarite,** Redington Quicksilver Mine, Lake County, California. J. F. Cox.

6993. **Coal,** Colorado River, near the Needles. S. W. Holladay.

6994. **Silicified Wood,** Mokelumne Hill, Calaveras County, California. Alphonse Knell.

6995. **Gypsum,** from a new locality in Los Angeles County, California.

6996. **Rock Specimen,** near Deffenbach's Ranch, one mile from the bay, Sausalito, Marin County, California. F. H. Attwood.

6997. **Rock Specimen,** from first tunnel on N. P. C. R. R., Blithedale Station, Marin County, California. F. H. Attwood.

6998. **Bituminous Shale,** from which oil and gas can be manufactured, Calistoga, Napa County, California.

6999. **Rosin Tin,** Fowey Consols Mine, Cornwall, England. J. F. Cox.

7000. **Pisolite,** Humboldt County, Nevada. W. P. Minckler.

7001. **Iron Pyrite,** with octahedral crystals of gold, California. Louis A. Garnett.

7002. **Silver Ore,** Independence Mine, Tuscarora District, Elko County, Nevada. J. W. Pew.

7003. **Silver Ore,** Betty O'Neal Mine, Lewis District, Lander County, Nevada. R. P. Heath.

7004. **Silver Ore,** Navajo Mine, Tuscarora District, Elko County, Nevada. J. W. Pew.

7005. **Copper Ore,** Australia. Joseph Morizio.

7006. **Speiss,** roasted to drive off the arsenic, Eureka Consolidated Mining Company, Eureka, Nevada.

7007. **Speiss,** from the furnaces, Eureka Consolidated Mining Company, Eureka, Nevada.

7008. **Silver Ore,** Martin White Mine, Ward District, White Pine County, Nevada. From the Company.

7009. **Silver Ore,** Hale and Norcross Mine, 2,900-foot level, Comstock Lode, Virginia City, Nevada. H. M. Levy.

7010. **Silver Ore,** Hale and Norcross Mine, 2,900-foot level, Comstock Lode, Virginia City, Nevada. H. M. Levy.

7011. **Silver Ore,** Hale and Norcross Mine, 2,900-foot level, Comstock Lode, Virginia City, Nevada. H. M. Levy.

7012. **Silver Ore,** Flint District, Owyhee County, Idaho. Wm. Willis.

7013. **Silver Ore,** Little Rosebud Mine, Washington Territory. I. C. Stump.

7014. **Silver Ore,** Merritt Mine, Socorro, New Mexico.

7015. **Silver Ore,** Quijotoa District, Arizona. W. S. Lyle.

7016. **Country Rock,** Quijotoa District, Arizona. W. S. Lyle.

7017. **Silver Ore,** Raymond Group of Mines, Pinal County, Arizona. J. W. Pew.

7018. **Silver Ore,** Raymond Group of Mines, Pinal County, Arizona. J. W. Pew.

7019. **Silver Ore,** Raymond Group of Mines, Pinal County, Arizona. J. W. Pew.

7020. **Silver Ore,** Paradise Valley Mine, Tuscarora District, Nevada. Wm. Letts Oliver.

7021. **Silver Ore,** Wild Goose Mine, Paradise Valley, Nevada. Wm. Letts Oliver.

7022. **Silver Ore**, Modoc Mine, Inyo County, California. J. W. Pew.

7023. **Gold Quartz**, Clipper Mine, Shasta County, California. L. Safley.

7024. **Talcose Slate**, eighteen miles from San Diego, San Diego County, California. W. H. Green.

7025. **Pyrolusite**, Anhydrous binoxide of Manganese, Banning, Los Angeles County, California. J. M. Gilman.

7026. **Iron Ore**, Magnetite, Sacramento County, California. G. Willard Bennett.

7027. **Iron Ore**, Magnetite, Chico, Butte County, California. C. O. Hobart.

7028. **Magnesite**, Carbonate of Magnesia, south side of Tule Creek, ten miles east of Portersville, Tulare County, California.

7029. **Iron Pyrites** on Quartz, Oak Run, California. J. Mason.

7030. **Dolomite and Picrolite**, Magalia, Butte County, California. Alex. McKenzie.

7031. **Clay**, Bodie, Mono County, California. W. H. C. Mathews.

7032. **Iron and Arsenical Pyrites**, Cisco, Placer County, California. Wm. Pope.

7033. **Clay**, containing Silica and Magnesia, Chico, Butte County, California. B. A. Harrison.

7034. **Hydrous Sulphate of Zinc**, Mount Hope, Nevada. Hon. Thos. Wren.

7035. **Marble**, near Los Angeles, Los Angeles County, California. Dobinson & Fairchild.

7036. **Copper Matte**, Anaconda Mine, Montana. I. C. Stump.

7037. **Garnets** in Feldspathic Rock, Grub Gulch, Fresno County, California. A. T. Dozier.

7038. **Gold Quartz,** Texas Flat, Fresno County, California. I. C. Stump.

7039. **Gold Quartz,** Alvord Mine, twelve miles from Calico and eight miles from Camp Cady, San Bernardino County, California. H. S. Loveland.

7040. **Gold Quartz,** Star of the West Mine, West Point, Calaveras County, California. Jas. N. Richardson.

7041. **Gold Quartz,** Oro Fino Mine, Placer County, California. J. N. Christie.

7042. **Gold Quartz,** Enchantress Mine, near Sheep Ranch, Calaveras County, California. I. C. Stump.

7043. **Gold Quartz,** Lockwood Mine, West Point, Calaveras County, California. J. Morizio.

7044. **Gold Quartz,** Hyde Ranch Mine, four miles from Sonora, Tuolumne County, California. R. P. Heath.

7045. **Gold Quartz,** Mono Mine, 700-foot level, Bodie District, Mono County, California. Wm. M. Lent.

7046. **Gold Quartz,** Chariot Gold Mine, San Diego County, California. J. W. Pew.

7047. **Gold Quartz,** Hoosier Mine, Calaveras County, California. J. W. Pew.

7048. **Gold Quartz,** Golden Wreath Mine, Fish Springs, Inyo County (?), California.

7049. **Gold Quartz,** Reed and Hillery Mines, North Fork of the Mokelumne River, three miles from West Point, Calaveras County, California. J. H. Crossman.

7050. **Gold Quartz,** Caucasian Mine, Bully Choop District, Trinity County, California. (Sec. 9, T. 31 N. of R. 8 W.) B. W. Thomson.

7051. **Gold Quartz,** Cumberland Ledge, Bully Choop District, Trinity County, California. (Sec. 9, T. 31 N. of R. 8 W.) B. W. Thomson.

7052. **Gold Quartz,** with Telluride of Gold, Schearer and Rattler Mine, Salt Creek, three miles from Redding, Shasta County, California. Shearer & Rattler.

7053. **Gold Quartz,** with Telluride of Gold, Shearer and Rattler Mine, Salt Creek, three miles from Redding, Shasta County, California. Shearer & Rattler.

7054. **Auriferous Gravel,** 350 feet from surface, Mayflower Mine, Forest Hill, Placer County, California. J. Morizio.

7055. **Gold Quartz,** Greely Blackman Mine, Deer Creek, Grass Valley, Nevada County, California. H. Cone.

7056. **Gold Quartz,** Cranberry Mine, Coulterville, Mariposa County, California. A. H. Ward.

7057. **Gold Quartz,** Butte Bar Mine, Middle Fork Feather River, Butte County, California. Geo. L. Brown.

7058. **Gold Quartz,** Davy Crockett Mine, Woodford's, Alpine County, California. Edward Barnes.

7059. **Gold Quartz,** four miles from Hornitos, Mariposa County, California. A. B. Rowley.

7060. **Gold Quartz,** Cranberry Mine, Merced River, Mariposa County, California. Lewis E. Aubery.

7061. **Gold Quartz,** Grizzly Gulch Mine, Indian Creek District, Siskiyou County, California. Henry Budelman.

7062. **Gold Quartz,** New York Gulch Mine, Indian Creek District, Siskiyou County, California. Henry Budelman.

7063. **Lava,** Lassen's Peak, Tehama County, California. R. R. Strain.

7064. **Coal,** Deer Creek Coal Fields, Peralta Grant, Arizona. Jas. Addison Reavis.

Silver Ore, Delano Mine, twenty-eight miles east of Delano, Kern River, Tulare County, California. Mining and Scientific Press.

Silver Ore, Venus Mine, Calistoga, Napa County, California. Dan. Patton.

Silver Ore, Silverado, Mount St. Helena, Napa County, California.

Silver Ore, Silver King Mine, near Redding, Shasta County, California. B. B. Minor.

Wall Rock, Foot Wall of No. 7068. B. B. Minor.

Silver Ore, Iron Mountain Mine, Shasta County, California. B. B. Minor.

Silver Ore, Crescent Mills, Plumas County, California.

Silver Ore, Iron Mountain Mine, Shasta County, California. Camden & Magee.

Silver Ore, Iron Mountain Mine, Shasta County, California. Camden & Magee.

Silver Ore, Wild Rose District, Mono County, California. Capt. J. M. Keeler.

Croppings, Mount Raymond District, Fresno County, California. Sam'l T. Curtis.

Silver-Copper Ore, Silver King Mine, four miles west of Redding, Shasta County, California.

Silver Ore, New Year's Gift Mine, Inyo County, California, thirty-five miles south of Panamint. W. P. Morrison.

Silver Ore, Ivanpah, San Bernardino County, California. Hon. Truman Reeves.

Wall Rock, Hanging Wall of No. 7068. B. B. Minor.

Cinnabar, Napa Consolidated Quicksilver Mine, Napa County, California. J. Francis Cox.

7081. **Cinnabar,** Bandireto Mine, Coulterville, Mariposa County, California. Chas. L. Mast.

7082. **Cinnabar,** Great Eastern Mine, Guerneville, Sonoma County, California.

7083. **Cinnabar,** Great Eastern Mine, Guerneville, Sonoma County, California. Taken at bottom of the 220-foot incline.

7084. **Cinnabar,** Croppings of Great Eastern Mine, Guerneville, Sonoma County, California.

7085. **Quicksilver Ore,** New Idria Mine, 1,200-foot level. Thomas Bell.

7086. **Tiemannite** (Selenide of Mercury), Lake County, California. Sam'l T. Curtis.

7087. **Enargite Concretion,** Stella Mine, Alpine County, California. Lewis Chalmers.

7088. **Copper Ore,** Bullion Mine, Union District, Plumas County, California.

7089. **Copper Ore,** Lower part of Monterey County, California, near sea coast and line of San Luis Obispo County.

7090. **Copper Ore,** San Francisco Copper Mine, Spenceville, Nevada County, California. J. E. Ellis.

7091. **Copper Ore,** San Francisco Copper Mine, Spenceville, Nevada County, California. J. E. Ellis.

7092. **Copper Ore,** thirty-eight miles east of Mojave, near the A. and P. R. R., Kern County, California. F. E. Williams.

7093. **Copper Ore,** Crescent Mills, Plumas County, California.

7094. **Chromic Iron,** Yreka, Siskiyou County, California. J. Cardell.

7095. **Chromic Iron,** Burnt Flat, Under Cape Horn, Placer County, California. J. C. Rhoads.

Found in bunches.

7096. **Chromic Iron,** back of the Geysers, Sonoma County, California. W. Flick.

7097. **Chromic Iron,** Robinson's Ferry, Tuolumne County, California. Wm. McArdle.

7098. **Chromic Iron,** half a mile from Coloma, El Dorado County, California. I. N. Thorn.

7099. **Chromic Iron,** Hollister, San Benito County, California. Wm. Johnson.

7100. **Chromic Iron** (Croppings), White River, Tulare County, California. Wm. Flick.

7101. **Stibnite** (Antimony Ore), Downieville, Sierra County, California. Richard Sparling.

7102. **Magnetic Iron Sand,** Beach at Little River, Humboldt County, California. C. E. Beach.

Location four miles south of Trinidad. It is said to exist in large quantities.

7103. **Gold Quartz,** Fine Gold Mine, Railroad Flat, Fresno County, California. I. C. Stump.

7104. **Limonite** (Iron Ore), North Pacific Light Copper Mine, near Mendocino, Mendocino County, California.

7105. **Hematite** (Iron Ore), Rainbow Ridge, T. 20, R. 3 E., Humboldt County, California. Dr. R. P. Chase.

7106. **Limonite** (Iron Ore), Ledge on Bear River, near Wheatland, Yuba County, California. John Landis.

7107. **Hematite** (Iron Ore), Riverside, San Bernardino County, California. R. P. Chandler.

7108. **Limonite** (Iron Ore), Klamath River. Wm. Ayres.

7109. **Chalcosite and Malachite,** Kern River, Tulare County, California. M. Braverman.

7110. **Gold Quartz,** Golden Gate Mine, Merced River, Mariposa County, California. Lewis E. Aubery.

7111. **Gold Quartz,** Banderita Mine, ten miles east of Coulterville, Mariposa County, California. Lewis E. Aubery.

7112. **Gold Quartz,** Bonderient Mine, ten miles east of Coulterville, Mariposa County, California. Lewis E. Aubery.

7113. **Silver Ore,** Mineral King District, Tulare County, California. Lewis E. Aubery.

7114. **Gold Quartz** (Telluride Ore), Amador Mill and Mining Company's Mine, near Jackson, Amador County, California. Abram Halsey.

7115. **Gold Quartz,** Carson Hill, Calaveras County, California.

7116. **Gold Quartz,** Excelsior Mine, El Dorado County, California. Henry Walls.

7117. **Gold Quartz,** Poleta Mine, Bishop Creek, Inyo County, California. D. S. Woodhull.
Assays $60 per ton.

7118. **Gold Quartz,** Pride of Bummerville Mine, West Point, Calaveras County, California. S. Ruffino.

7119. **Gold Quartz,** Scorpion Mine, West Point, Calaveras County, California. S. Ruffino.

7120. **Gold Quartz,** Excelsior Mine, Meadow Lake District, Nevada County, California. H. H. Hartley.

7121. **Gold Quartz,** North Star Mine, between Newcastle and Colfax, Placer County, California. Thos. B Winters.

7122. **Gold Quartz,** Canada Hill, Placer County, California. S. E. Holcombe.

7123. **Gold Quartz,** Niagara Mine, Shasta County, California. Wm. T. Coleman.

7124. **Gold Quartz,** Jackson Mine, Whiskytown District, Shasta County, California. J. C. Kesler.
Assays $160 per ton.

7125. **Gold Quartz,** Summit Mine, Banghart Peak, Shasta County, California. J. C. Kesler.
Assays $40 per ton.

7126. **Gold Quartz,** Mollie McCarthy Mine, Shasta County, California. J. C. Kesler.
Assays $10 per ton.

Gold Quartz, Grizzly Mine, Grizzly Gulch, Whiskytown District, Shasta County, California. J. C. Kesler.

Assays $25 per ton.

Gold Quartz, Phœnix Mine, Shasta County, California. J. C. Kesler.

Assays $15 per ton.

Gold Quartz, Sunday Afternoon Mine, Mad Ox Creek, Whiskytown District, Shasta County, California. J. C. Kesler.

Assays $7 per ton.

Gold Quartz, Habich Mine, Whiskytown District, Shasta County, California. J. C. Kesler.

Gold Quartz, Niagara Mine, Shasta County, California. Wm. T. Coleman.

Gold Quartz, East Fork, Trinity County, California. B. B. Minor.

Assays $159 per ton.

Gold Quartz, Mineral King District, Tulare County, California. (Secs. 9, 10, 15, and 16, T. 17 S., R. 3 E., Mt. Diablo Meridian.)

Gold Quartz (Sulphuret Ore), Soulsby Mine, Tuolumne County, California. John Leechman.

Silver Ore, Gladiator Mine, Mazourka Cañon, Inyo County, California. D. S. Woodhull.

Assays $100 per ton.

Silver Ore, Golden Crown Mine, Prescott District, near Tioga, Mono County, California.

Silver Ore, Hirsch Mine, Inyo County, California.

Silver Ore, Flagstaff Mine, Swansea, Inyo County, California.

Silver Ore, Hirsch Mine, Inyo County, California.

Silver Ore, Osceola Mine, Cerro Gordo District, Inyo County, California. D. S. Woodhull.

Assays $250 per ton.

7141. **Silver Ore,** Argonaut Mine, Mazourka Cañon, Inyo County, California.

7142. **Silver Ore,** Larco Mine, Near Redwood City, San Mateo County, California.

7143. **Silver Ore,** Plumosa, Lower California, Mexico.

7144. **Gold Quartz,** on the mainland, near Harrisburg, Alaska. S. Heydenfeldt, Jr.

7145. **Silver Ore,** Stella Mine, Silver Lead District, Mariposa County, California.

7146. **Zinc Blende,** Homestake Mine, Mt. Raymond District, Fresno County, California. H. Clerc de Landresse.

7147. **Silver Lead Ore,** Yosemite Queen Mine, Mt. Raymond District, Fresno County, California. H. Clerc de Landresse.

Specimen, taken two feet from the surface, assays 42 ounces silver and 1,280 pounds lead, per ton.

7148. **Silver Ore,** Croppings of the Imperial Mine, Comstock Lode, Gold Hill, Nevada. J. C. Senderling.

7149. **Silver Ore,** Imperial Mine, Comstock Lode, Gold Hill, Nevada. J. C. Senderling.

7150. **Silver Ore,** Rich Chloride Ore, Eberhardt Mine, White Pine District, Nevada. J. C. Senderling.

7151. **Silver Ore,** Reveille Mine, Reveille District, Nye County, Nevada. H. M. Levy.

7152. **Copper Ore,** Wilson Mine, Darwin District, Inyo County, California. J. H. Keeler.

7153. **Copper Ore,** Diamond Copper Mine, Low Divide, Del Norte County, California.

7154. **Magnetite** (Iron Ore), Los Angeles County, California. Chas. G. Yale.

7155. **Galena** (Lead Ore), Corcoran Mine, Walker River Range, Esmeralda County, Nevada. Philip Corcoran.

7156. **Cinnabar,** American Mine, Lake County, California. Theodore Bilty.

7157. **Cinnabar,** Great Western Mine, Lake County, California. Abram Halsey.

7158. **Gold Quartz,** Plymouth Consolidated Mine, Amador County, California. Second stope, 1,145 feet from surface. Col. A. Hayward.

7159. **Gold Quartz,** Plymouth Consolidated Mine, Amador County, California. First stope, 1,150 feet from surface. Col. A. Hayward.

7160. **Gold Quartz,** Plymouth Consolidated Mine, Amador County, California. Col. A. Hayward.

7161. **Gold Quartz,** Plymouth Consolidated Mine, Amador County, California. Third stope, 1,150 feet from surface. Col. A. Hayward.

7162. **Gold Quartz,** Plymouth Consolidated Mine, Amador County, California. Between third and fourth stopes, 1,270 feet from surface. Col. A. Hayward.

7163. **Gold Quartz,** Empire Mine, Amador County, California, 1,175 feet from surface. Col. A. Hayward.

7164. **Gold Quartz,** Plymouth Consolidated Mine, Amador County, California. South end 1,300-foot drift. Col. A. Hayward.

7165. **Gold Quartz,** Plymouth Consolidated Mine, Amador County, California. South end 1,280-foot drift. Col. A. Hayward.

7166. **Gold Quartz,** Plymouth Consolidated Mine, Amador County, California. No. 4 drift, 1,300 feet from the surface. Col. A. Hayward.

7167. **Marble,** Bear River, Humboldt County, California. H. Niebur.

Makes very good lime.

7168. **Serpentine Rock,** bored by Pholas, San Francisco, California.

7169. **Rock Specimen,** Epidote..

7170. **Boiler Scale,** Incrustation from boilers of Steamship Orizaba, showing layers formed by waters of different seas. P. J. Healey.

Composition: Sulphate of lime, carbonate of lime, magnesia, iron, and chloride of sodium.

7171. **Magnesite** (Carbonate of Magnesia), Salinas, Monterey County, California. Lucas & Co.

7172. **Conglomerate of Lava and Obsidian** (cemented together by lime in solution), Darwin Cañon, Inyo County, California. Capt. J. M. Keeler.

7173. **Gypsum** (very impure), Kern County, California. B. F. Barton.

7174. **Calcite,** San Luis Obispo County, California. Myron Angel.

7175. **Concretion** (consisting of Alumina, Silica, and Iron), Long Valley, Inyo County, California. Dr. George.

7176. **Sedimentary Deposit of Silica,** Ione, Amador County, California, contains no Diatoms. D. M. Jacott.

7177. **Gold Quartz,** Plymouth Consolidated Mine, Amador County, California. Between the 900 and 1,000-foot levels, about 860 feet from the surface. Col. A. Hayward.

7178. **Gold Quartz,** Plymouth Consolidated Mine, Amador County, California. Winze 30 feet below No. 4 level, or 1,330 feet from the surface. Col. A. Hayward.

7179. **Gold Quartz,** Plymonth Consolidated Mine, Amador County, California. Winze 30 feet below No. 4 level, or 1,330 feet from the surface. Col. A. Hayward.

7180. **Gold Quartz,** Plymouth Consolidated Mine, Amador County, California. Twenty feet below 1,100-foot level, about 1,015 feet from the surface. Col. A. Hayward.

7181. **Molybdenite** (in Calcite), San Bernardino County, California. H. G. Maynard.

7182. **Diatomaceous Earth,** near Yreka, Siskiyou County, California. H. A. Morse.

7183. **Clay,** eight miles from Georgetown, El Dorado County, California. Wm. F. Flick.

7184. **Diatomaceous Earth,** near St. Helena, Napa County, California. R. E. Wood.

7185. **Clay,** near Bodie, Mono County, California. S. D. Connell.

7186. **Hovite,** Independence, Inyo County, California. A. D. Gilbert.

7187. **Chrysocolla,** San Diego County, California. J. M. Thorn.

7188. **Steatite,** San Diego County, California. F. D. Mitchell.

7189. **Steatite,** Contra Costa County, California. Hiram Tubbs.

7190. **Graphite** (impure), San Bernardino County, California. M. H. Anderson.

7191. **Pyroxene,** Dutch Flat, Placer County, California. A. B. Gallatin.

7192. **Clay,** Mokelumne Hill, Calaveras County, California. Geo. Muths.

7193. **Clay,** near the Town of Sonoma, Sonoma County, California. S. W. Curtis.

7194. **Gypsum,** Big Pine, Inyo County, California. S. G. Gray.

7195. **Obsidian pebbles,** Alturas, Modoc County, California. A. L. K.

7196. **Rock Specimen,** Butte Creek Valley, forty-five miles east of Yreka, Siskiyou County, California. Dr. F. G. Hearn.
Used for chimneys and other buildings.

7197. **Hematite,** Iron Ore, Garberville, Humboldt County, California. P. J. Wood.

7170. **Boiler Scale,** Incrustation from boilers of Stea[illegible]m-
ship Orizaba, showing layers formed by waters [illegible]ot
different seas. P. J. Healey.

Composition: Sulphate of lime, carbonate of lime, magnesia, ir[illegible]ron, and chloride of sodium.

7171. **Magnesite** (Carbonate of Magnesia), Salinas, Mo[illegible]on-
terey County, California. Lucas & Co.

7172. **Conglomerate of Lava and Obsidian** (cemente[illegible]ated
together by lime in solution), Darwin Cañon, Iny[illegible]nyo
County, California. Capt. J. M. Keeler.

7173. **Gypsum** (very impure), Kern County, Californi[illegible]nia.
B. F. Barton.

7174. **Calcite,** San Luis Obispo County, California. M[illegible]My-
ron Angel.

7175. **Concretion** (consisting of Alumina, Silica, and Iron [illegible]on),
Long Valley, Inyo County, California. Dr. George[illegible]rge.

7176. **Sedimentary Deposit of Silica,** Ione, Amado[illegible]dor
County, California, contains no Diatoms. D. M[illegible] M.
Jacott.

7177. **Gold Quartz,** Plymouth Consolidated Mine, Ama[illegible]na-
dor County, California. Between the 900 and[illegible]nd
1,000-foot levels, about 860 feet from the surface[illegible]ce.
Col. A. Hayward.

7178. **Gold Quartz,** Plymouth Consolidated Mine, Ama[illegible]na-
dor County, California. Winze 30 feet below No[illegible]o.
4 level, or 1,330 feet from the surface. Col. A[illegible]A.
Hayward.

7179. **Gold Quartz,** Plymonth Consolidated Mine, Ama[illegible]a.
dor County, California. Winze 30 feet below No[illegible]o.
4 level, or 1,330 feet from the surface. Col. A[illegible]
Hayward.

7180. **Gold Quartz,** Plymouth Consolidated Mine, Ama-
dor County, California. Twenty feet below 1,100-
foot level, about 1,015 feet from the surface. Col.
A. Hayward.

7181. **Molybdenite** (in Calcite), San Bernardino County,
California. H. G. Maynard.

7214. **Country Rock** (Schist), Fresno Enterprise Mine, Fresno County, California. G. G. Keeney.

7215. **Obsidian** (mistaken for coal), San Luis Obispo, California. E. M. Carpenter.

7216. **Rock Specimen,** Lava Bed District, San Bernardino County, California, twenty miles southeast of Newberry Station. J. D. Coughlin.

7217. **Marble,** near Tule River, Tulare County, California. Dr. George.

7218. **Actinolite,** Calpella, Mendocino County, California. P. R. Klein.

7219. **Rock Specimen,** two miles from Calistoga, Napa County, California.

7220. **Jasper,** near Helmet Rock, San Francisco. Edw'd A. T. Gallagher.

7221. **Marble,** five miles from Coulterville, Mariposa County, California. W. J. McCarthy.

7222. **Chromic Iron,** near Sierra City, Sierra County, California. Jos. Holtsworth.

7223. **Calcite,** Inyo County, California.

7224. **Asbestus,** Iowa Hill, Placer County, California. T. Threlfall.

7225. **Rock Specimen,** between Soda Lake and the Cave, San Bernardino County, California. S. Heydenfeldt, Jr.

7226. **Rock Specimen,** near Calistoga, Napa County, California. Samuel Kellett.

7227. **Wall Rock,** Indiana Mine, Indian Hill, Swansea District, Inyo County, California.

7228. **Waterworn Rock,** near Oroville, Butte County, California. A. B. Paul.

7229. **Rock Specimen,** Klamath River, California.

7230. **Rock Specimen,** Merced River, below the Yosemite Valley, Mariposa County, California. M. Hutchings.

7231. **Rock Specimen,** near Calpella, Mendocino County, California. P. R. Klein.

7232. **Rock Specimen,** with Garnets, Calpella, Mendocino County, California. P. R. Klein.

7233. **Rock Specimen,** Etiquera Creek, Napa County, California. Jas. T. Ish.
Said to exist in large quantities.

7234. **Obsidian Pebbles,** Eagle Lake, Lassen County, California. A. L. K.

7235. **Selenite,** one mile beyond Pence, near the road to Cherokee, Butte County, California. A. L. K.

7236. **Rock Specimen,** Michigan Bluffs, Placer County, California. R. L. Dunn.

7237. **Obsidian Arrowheads,** Lassen County, California. W. D. Minckler.

7238. **Ochre,** from the quicksilver lead, Santa Barbara County, California. Sam'l Staddon.

7239. **Ochre** (Burnt), from the quicksilver lead, Santa Barbara County, California. Sam'l Staddon.

7240. **Copper Cannon Ball,** found in the bluffs at San Pedro, Los Angeles County, California. Benj. Hill.

7241. **Silicified Wood,** Santa Rosa, Sonoma County, California. Wm. Dana.

7242. **Stalactites,** cave at Murphy's, Calaveras County, California. Wm. Irelan, Jr.

7243. **Bournonite** (Triple Sulphuret of Lead, Antimony, and Copper).

7244. **Rock Specimen,** White Point, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

7245. **Cobalt Ore** (chiefly Alumina, colored by Copper and Cobalt). A. J. Bowie.

7246. **Cobalt Ore** (earthy black Cobalt, with Alumina and Chrysocolla), Alkaline Mining Company, Esmeralda County, Nevada. Aug. J. Bowie.

7247. **Cobalt Ore** (chiefly Alumina, colored by solution of Cobalt and Copper), Hardwick Mine, Nevada. H. A. Cobb.

7248. **Nickel Ore**, Alkaline Mining Company, Esmeralda County, Nevada. Aug. J. Bowie.

7249. **Clay**, Mono County, California. M. F. Tarpey.

7250. **Silver Ore**, Red Jacket Mine, Calico District, San Bernardino County, California. Lowry Silver.

7251. **Silver Ore**, Sue Mine, Calico District, San Bernardino County, California. Lowry Silver.

7252. **Silver Ore**, Young Waterman Mine, Calico District, San Bernardino County, California. Lowry Silver.

7253. **Silver Copper Ore**, Comet Mine, Calico District, San Bernardino County, California. Lowry Silver.

7254. **Silver Ore**, Kearsarge Mine, Calico District, San Bernardino County, California. Lowry Silver.

7255. **Silver Ore**, Lone Star Mine, Calico District, San Bernardino County, California. Lowry Silver.

7256. **Silver Ore**, Thunder Mine, Calico District, San Bernardino County, California. Lowry Silver.

7257. **Silver Ore**, Garfield Mine, Calico District, San Bernardino County, California. Lowry Silver.

7258. **Silver Ore**, Bismarck Mine, Calico District, San Bernardino County, California. Lowry Silver.

7259. **Silver Ore**, De Soto District, San Bernardino County, California. Lowry Silver.

7260. **Silver Ore**, Veto Mine, Calico District, San Bernardino County, California. Lowry Silver.

7261. **Silver Ore**, New York District, San Bernardino County, California. Lowry Silver.

7262. **Gold Quartz,** Arrow Mining District, San Ber[illegible]ar-dino County, California. Lowry Silver.

7263. **Ozocerite,** Utah. Native Paraffin.

7264. **Mispickel** (Arsenical Pyrites, with Gold).

7265. **Mispickel** (Arsenical Pyrites, rich in Gold). S. [illegible] E. Holcombe.

7266. **Chalcedony.** F. E. Monteverde.

7267. **Hornstone** (variety of Quartz).

7268. **Silicious Limestone,** Fresno County, Californ[illegible]nia. Britton & Rey.

7269. **Metallic Antimony,** said to exist in large quan[illegible]anti-ties near Spokane Falls, Washington Territo[illegible]ory. C. Bradley.

7270. **Diatomaceous Earth,** Cobb Mountain, La[illegible]ake County, California.

7271. **Cerussite** (Carbonate of Lead), Patagonia Mou[illegible]un-tains, Pima County, Arizona. Chas. R. Wores. [illegible]s.

7272. **Rutile,** in fine crystals.

7273. **Sphalerite** (Zinc Blende), Bunker Hill Mine, Far[illegible]argo District, Mono County, California. A. McNabl[illegible]bb.

7274. **Wall Rock,** hanging wall of Plymouth Conso[illegible]oli-dated Mine, Amador County, California. Fro[illegible]om 1,500-foot level. From the Company.

7275. **Gold Quartz,** Plymouth Con. Mine, Amad[illegible]dor County, California. Taken from the stope o[illegible]on 1,400-foot level. From the Company.

7276. **Auriferous Vein Matter,** Plymouth Con. Mine[illegible]e, Amador County, California. From 1,500-fo[illegible]t level. From the Company.

7277. **Gouge,** on foot wall, Plymouth Con. Mine, Amador County, California. From 1,500-foot level. From the Company.

7278. **Stringers and Slate,** on foot wall, Plymouth Con. Mine, Amador County, California. From 1,500-foot level. From the Company.

7279. **Wall Rock,** hanging wall, Keystone Mine, Amador County, California. From 720-foot level, east vein. From the Company.

7280. **Gold Quartz,** Keystone Mine, Amador County, California. From 720-foot level, east vein. From the Company.

7281. **Wall Rock,** foot wall, Keystone Mine, Amador County, California. 250 feet west of hanging wall, 720-foot level. From the Company.

7282. **Gold Quartz,** Keystone Mine, Amador County, California. From 720-foot level, west vein. From the Company.

7283. **Vein Matter,** Keystone Mine, Amador County, California. From 720-foot level, west vein. From the Company.

7284. **Gold Quartz,** Keystone Mine, Amador County, California. North and south vein, pitching west, 1,000-foot level. From the Company.

7285. **Gold Quartz,** Keystone Mine, Amador County, California. 1,000-foot level, west vein. From the Company.

7286. **Wall Rock,** foot wall, Keystone Mine, Amador County, California. 1,200-foot level. From the Company.

7287. **Gold Quartz,** Keystone Mine, Amador County, California. Middle vein, 720-foot level. From the Company.

7288. **Spar,** Keystone Mine, Amador County, California. On foot wall, 1,200-foot level. From the Company.

7289. **Wall Rock,** hanging wall, South Spring Hill Mine, Amador County, California. From 700-foot level. From the Company.

7290. **Gold Quartz,** South Spring Hill Mine, Amador County, California. South drift, 700-foot level. From the Company.

7291. **Gold Quartz,** South Spring Hill Mine, Amador County, California. North drift, 700-foot level. From the Company.

7292. **Wall Rock,** foot wall, South Spring Hill Mine, Amador County, California. 700-foot level. From the Company.

7293. **Gouge,** on foot wall, South Spring Hill Mine, Amador County, California. 700-foot level. From the Company.

7294. **Wall Rock,** hanging wall, with gold-bearing arsenical sulphurets attached, Nevill's Mine, or Amador Tunnel Mill and Mining Company, Amador County, California. From the Company.

7295. **Gold Quartz,** with rich arsenical and antimonial sulphurets, showing free gold, Nevill's Mine, Amador County, California. Taken from face of tunnel, 3,300 feet from entrance, and about 600 feet vertical depth from surface, June 24, 1886. From the Company.

7296. **Gold Quartz,** with arsenical and antimonial sulphurets, very rich, Nevill's Mine, Amador County, California. From the Company.

7297. **Wall Rock,** foot wall, with vein matter attached, Nevill's Mine, Amador County, California. From the Company.

7298. **Gold Quartz,** New London Mine, Amador County, California. From the Company.

7299. **Wall Rock,** hanging wall, New London Mine, Amador County, California. From the Company.

7300. **Wall Rock,** foot wall, New London Mine, Amador County, California. From the Company.

7301. **Wall Rock,** foot wall, Angels' Mine, Angels' Camp, Calaveras County, California. J. V. Coleman.

7302. **Gold Quartz,** Angels' Mine, Angels' Camp, Calaveras County, California. J. V. Coleman.

7303. **Wall Rock,** hanging wall, Angels' Mine, Angels' Camp, Calaveras County, California. J. V. Coleman.

7304. **Wall Rock,** hanging wall, Downs Mine, Volcano, Amador County, California. R. C. Downs.

7305. **Gold Quartz,** Downs Mine, Volcano, Amador County, California. R. C. Downs.

7306. **Gouge,** Downs Mine, Volcano, Amador County, California. R. C. Downs.

7307. **Gold Quartz,** eight miles from Tombstone, Arizona.

7308. **Silver Ore,** New Coso Mine, Inyo County, California. Wm. H. V. Cronise.

7309. **Silver Ore** (very rich), Holmes Mine, Candelaria, Columbus District, Esmeralda County, Nevada. Chas. E. Elliott.

7310. **Fossil Leaves,** Central Hill, Calaveras County, California.

7311. **Nickel Ore,** Columbus, Esmeralda County, Nevada. C. A. Luckhardt.

7312. **Pyroxene,** near Colfax, Placer County, California. Levi Dohrman.

7313. **Basalt,** Little Putah Cañon, Yolo County, California. James T. Ish.

7314. **Lava,** western slope of range, three miles from mouth of Putah Creek Cañon, Napa County, California. James T. Ish.

7315. **Semi Opal,** with dendrites of iron, Fresno County, California.

7316. **Orthoclase,** with quartz, Soledad Cañon, Los Angeles County, California. W. H. H. Graves.

7317. **Garnet and Epidote,** on quartz, Fresno Flat, Fresno County, California. T. McMillan.

7318. **Chalcedony**, Lassen County, California. W. D. Minckler.

7319. **Limonite**, Santa Rosa, Sonoma County, California. Said to be in large quantities. Alfred W. Dana.

7320. **Aragonite**, Los Penasquitos Creek, San Diego County, California. Wm. H. Martin.

7321. **Jet** (Variety of Lignite), Gold Bluff, Humboldt County, California. Taken from the carbonized trunk of a tree. Col. Febiger, U. S. A.

7322. **Chalcedony Pebbles**, Gold Bluff, Humboldt County, California. Col. Febiger, U. S. A.

7323. **Rose Quartz**, Plumas County, California. W. D. Minckler.

7324. **Tourmaline**, in Quartz, Plumas County, California. W. D. Minckler.

7325. **Hornstone** (Flinty Jasper), Beach at Monterey, Monterey County, California. J. Z. Davis.

7326. **Quartz** (Limpid), Folsom, Sacramento County, California. I. N. Choynski.

7327. **Quartz** (Limpid), Chile Gulch, Calaveras County, California. D. F. Hughes.

7328. **Quartz** (Limpid), Chile Gulch, Calaveras County, California. D. F. Hughes.

7329. **Asphaltum**, near Bakersfield, Kern County, California. John Hamilton.

7330. **Aragonite** (polished), San Luis Obispo County, California. J. Z. Davis.

7331. **Pig Steel**, partially annealed, made from black sand, No. 7409, by the Russell patent process. From the Company.

7332. **Pig Steel**, unannealed, made from the black sand, No. 7409, by the Russell patent process. From the Company.

7333. **Copper Ore**, Satellite Mine, Calaveras County, California. Capt. Ranlett.

7334. **Copper Ore,** Satellite Mine, Calaveras County, California. Capt. Ranlett.

7335. **Copper Ore,** Satellite Mine, Calaveras County, California. Capt. Ranlett.

7336. **Copper Ore,** Satellite Mine, Calaveras County, California. Capt. Ranlett.

7337. **Antimony Oxide,** with **Cerargyrite.**

7338. **Sandstone,** waterworn. E. P. Hutchings.

7339. **Silicified Wood,** near Santa Rosa, Sonoma County, California. Alfred W. Dana.

This is a very remarkable and interesting specimen, consisting of a variety of woods and plants apparently crushed together by some convulsion of nature and subsequently silicified by infiltration of silica from a superincumbent layer of diatomaceous earth.

7340. **Diatomaceous Earth,** near Santa Rosa, Sonoma County, California. Very remarkable specimen, containing numerous diatoms, and also pieces of silicified wood, reeds, and other plants. Found in connection with No. 7339. Alfred W. Dana.

7341. **Sand,** eight miles from mouth of Russian River, Sonoma County, California. J. Z. Davis.

7342. **Sand,** imported from Germany for use in the manufacture of glass.

7343. **Topaz,** near Salt Lake, Utah.

7344. **Diamondiferous Sand,** Spring Valley Hydraulic Mine, Cherokee, Butte County, California. Louis Glass.

7345. **Rose Quartz,** Bull Run Meadows, Tulare County, California. H. Hughes.

7346. **Rock Crystal,** San Diego County, California. Noel & Whaley.

347. **Chalcedony,** Needles, Colorado River, San Bernardino County, California. A. W. Dana.

48. **Chalcedony,** Shovel Creek, Hot Springs, Siskiyou County, California. Dr. J. F. Hearn.

7349. **Calcite,** inclosed between layers of fibrous Picrolite, Ohio Mine, Patagonia District, Arizona. P. S. Buckminster.

7350. **Calcite,** incrusted with pure white, stellate, radiated quartz crystals.

7351. **Limestone,** —— Hills, ten miles south of Soledad, Monterey County, California.

7352. **Marble,** thirty to fifty feet wide, Dry Creek, Colusa County, California. W. H. Wilton.

7353. **Obelisk,** of different varieties of Suisun "Onyx Marble." Sam. Sonnenfeld.

7354. **Malachite,** Copper Queen Mine, Bisbee, Arizona.

7355. **Aragonite** (Onyx Marble), Griffin's Quarry, six miles south of Berryvale, Siskiyou County, California. Manton E. Hammond.

7356. **Brucite** (Hydrate of Magnesia).

7357. **Ozocerite,** native Paraffin. Mr. Hittell.

7358. **Silver Ore,** Lady Hayes Mine, Patterson District, Mono County, California.

7359. **Silver Ore,** Star Mine, Patterson District, Mono County, California, 70 feet from surface.

7360. **Silver Ore,** Magnolia Mine, Patterson District, Mono County, California.

7361. **Silver Ore,** Great Western Mine, Patterson District, Mono County, California, 200 feet from surface.

7362. **Silver Ore,** Kentuck Mine, Patterson District, Mono County, California.

7363. **Silver Ore,** Homestake Mine, Patterson District, Mono County, California.

7364. **Silver Ore,** Silverado Mine, Patterson District, Mono County, California.

7365. **Gold Quartz,** May Lundy Mine, Homer District, Mono County, California, 200 feet from surface.

Silver Ore, Lookout Mine, Patterson District, Mono County, California.

Silver Ore, Poverty Mine, Patterson District, Mono County, California.

Wall Rock, hanging wall, Magnolia Ledge, Patterson District, Mono County, California.

Wall Rock, hanging wall, Silverado Mine, Patterson District, Mono County, California.

Gold Quartz, Porcupine Mine, Homer District, Mono County, California. Wm. Lemoine.

Wall Rock, foot wall, Magnolia Mine, Patterson District, Mono County, California.

Wall Rock, foot wall, Silverado Mine, Patterson District, Mono County, California.

Silver Ore, East Lookout Mine, Homer District, Mono County, California.

Gold Quartz, Lake View Mine, Homer District, Mono County, California.

Silver Ore, North Lookout Mine, Patterson District, Mono County, California.

Silver Ore, Polar Star Mine, Patterson District, Mono County, California.

Silver Ore, Golden Crown Mine, Tioga District, Mono County, California.

Copper (native), Detroit Mine, Jordan District, Mono County, California. Wm. Monahan.

Galena Auriferous, Benton, Mono County, California.

Country Rock, four hundred feet east of and parallel with Magnolia Ledge, Patterson District, Mono County, California.

Copper Ore, Detroit Copper Mine, Jordan District, Mono County, California. A. J. Howk.

7382. **Gold Quartz,** very rich in free gold.

7383. **Copper Ore** (Cuprite), Hirsch Mine, Inyo County, California. D. S. Woodhull.

7384. **Tin Ore** (Cassiterite), Temescal District, San Bernardino County, California.

7385. **Silicified Wood,** Polished.

7386. **Schist,** Colfax, Placer County, California. Mr. Rogers.

7387. **Rock Specimens,** Ione, Amador County, California. J. W. Loomis.

7388. **Azurite,** Longfellow Copper Mine, Apache County, Arizona.

7389. **Ferruginous Clay,** Middle Fork of Yuba River, Sierra County, California (occurs in veins). F. E. Birge.

7390. **Ferruginous Clay,** Los Angeles, Los Angeles County, California. E. W. Doss.

7391. **Lava,** Modoc Lava Beds, Modoc County, California. Mrs. H. C. Nichols.

7392. **Lava,** Colorado Desert, near Dos Palmas, San Diego County, California. New Liverpool Salt Company.

7393. **Mica,** Soledad Cañon, Los Angeles County, California. E. J. Jones.

7394. **Rock Specimen,** Howard Creek, near Gold Lake, Sierra County, California. William H. Weldon.

7395. **Rock Specimen,** Bolinas Road, Marin County, California. R. V. Collins.

7396. **Rock Specimen** (Sedimentary), Messenger Valley, Calaveras County, California.

7397. **Shell Conglomerate,** Butte Creek, Butte County, California. W. B. Lake.

7398. **Glass Sand,** Breckenridge County, Kentucky.

7399. **Rock Specimen,** Cook's Inlet, Alaska. Capt. L. N. Herendeen.

7400. **Fire Clay,** three to nine feet thick, Carter County, Kentucky.

7401. **Pebbles,** Beach near Crescent City, Del Norte County, California.

7402. **Kaolin,** Elko, Elko County, Nevada. Jno. E. Gilligan.

7403. **Galena,** Franklin County, Kentucky.

7404. **Amethyst Crystals.**

7405. **Rock Specimen,** White Point, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

7406. **Rock Specimen,** White Point, San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

7407. **Slate,** Colfax, Placer County, California. G. W. Rogers.

7408. **Magnesite,** Carbonate of Magnesia, Santa Cruz Mountains. L. A. Brownell.

7409. **Black Sand,** beach near the Ocean House, San Francisco County, California.

7410. **Limestone,** four and one half miles northeast of San Andreas, Calaveras County, California. S. Heydenfeldt, Jr.

7411. **Asphaltum Tiles,** made by patent process from No. 4286. Judson Rice.

7412. **Silver Ore,** Infallible Mine, Mojave County, Arizona. P. Hatch.

7413. **Silver Ore,** with Lime Spar and Gangue, Chloride Mine, Emigrant Springs, Inyo County, California. Capt. J. M. Keeler.

7414. **Redwood** (Sequoia sempervirens). Thos. Hatch.

7415. **Redwood** (Sequoia sempervirens). Thos. Hatch.

7416. **Gold Quartz,** from rich streaks occurring in vein matter, Stewart Gold Mine, Sutter Creek, Amador County, California. Wm. Stewart.

7417. **Auriferous Vein Matter**, one hundred feet in width, Stewart Gold Mine, Sutter Creek, Amador County, California. Wm. Stewart.

7418. **Cinnabar** (Quicksilver Ore), New Idria Mine, Fresno County, California. Jas. M. Maxwell.

7419. **Cinnabar** (Quicksilver Ore), New Idria Mine, Fresno County, California. Jas. M. Maxwell.

7420. **Cinnabar** (Quicksilver Ore), New Idria Mine, Fresno County, California. Jas. M. Maxwell.

7421. **Cinnabar** (Quicksilver Ore), New Idria Mine, Fresno County, California. Jas. M. Maxwell.

7422. **Cinnabar** (Quicksilver Ore), New Idria Mine, Fresno County, California. Jas. M. Maxwell.

7423. **Cinnabar** (Quicksilver Ore), New Idria Mine, Fresno County, California. Jas. M. Maxwell.

7424. **Cinnabar** (Quicksilver Ore), New Idria Mine, Fresno County, California. Jas. M. Maxwell.

7425. **Cinnabar** (Quicksilver Ore), New Idria Mine, Fresno County, California. Jas. M. Maxwell.

7426. **Charred Wood,** found twenty feet below the surface, in sinking a well at the Hotel Del Monte, Monterey, Monterey County, California.

7427. **Silicified Wood,** Livermore Valley, Alameda County, California. F. E. Smith.

7428. **Silver Ore**, Old Guard Mine, Tombstone, Arizona. T. W. Fenn.

7429. **Silver Ore**, Old Guard Mine, Tombstone, Arizona. T. W. Fenn.

7430. **Azurite**, Atlanta Mine, Bisbee, Arizona. T. W. Fenn.

7431. **Silver Ore,** Horn Silver, Virginia Mine, Tombstone, Arizona. T. W. Fenn.

Calcite, Virginia Mine, Tombstone, Arizona. T. W. Fenn.

Calcite, Virginia Mine, Tombstone, Arizona. T. W. Fenn.

Serpentine (two ornaments), near the Lizard, Cornwall, England. J. Z. Davis.

Hematite, near Feltz Springs, Smithsville, Colusa County, California. H. W. Wilton.

Marble, near surface, Smithsville, Colusa County, California. H. W. Wilton.

Tin Ore, Cassiterite, oxide of tin, Camborne Mine, Dolcoath, Cornwall, England. Taken 2,466 feet from suface and contains 50 to 75 per cent tin. Lewis J. Safley.

Celatinite, San Gregorio Ranch, San Mateo County, California. John Ralston.

Barite, Sulphate of Baryta.

Diatomaceous Earth, Calistoga, Napa County, California.

Coquimbite, Sulphate of Iron, South America (?).

Emery, Brandy City, Sierra County, California. J. J. Williams.

Silicate of Alumina, over Montmorillonite with dendrites of oxide of manganese and iron, Talc Iron Mine, California Gulch, Leadville, Lake County, Colorado.

Chromic Iron, near Vallejo, Solano County, California. W. A. Hutchinson.

Serpentine, with seams of Chrysotile and Hematite, near Vallejo, Solano County, California. W. A. Hutchinson.

Gold Quartz, Chariot Mine, San Diego County, California.

7447. **Gold Quartz,** New World Mine, Clear Creek District, Kern County, California. Charles E. Sherman.

7448. **Gold Quartz,** St. Lawrence Mine, near Auburn, Placer County, California. G. W. Osborn.

7449. **Gold Quartz,** Centennial Mine, Auburn, Placer County, California. Charles H. Mitchell.

7450. **Wall Rock,** Maryland Mine (extension of Idaho Mine), Grass Valley, Nevada County, California. S. P. Dorsey.

7451. **Gold Quartz,** Pacific Mine, Grass Valley, Nevada County, California. W. C. Stokes.

7452. **Chalcopyrite,** Sulphurets of Copper and Iron, Hearst Mine, Slate Range, San Bernardino County, California.

7453. **Galena,** with Mimetite.

7454. **Anglesite,** Sulphate of Lead, argentiferous, Cerro Gordo, Inyo County, California.

7455. **Cerargyrite,** Leopard Mine, Elko County, Nevada.

7456. **Calcite,** Carpenter Ranch, San Luis Obispo County, California.

7457. **Gold Quartz,** Red Cloud Mine, Bodie, Mono County, California.

7458. **Silver Ore,** Hornet Mine, Tuscarora District, Elko County, Nevada.

7459. **Silver Ore,** Reolito Mine, Sinaloa, Mexico.

7460. **Silver Lead Ore,** Tecoma Mine, Lucin District, Nevada.

7461. **Silver Copper Ore,** Lexington Mine, Helena, Montana.

7462. **Silver Ore,** Hornet Mine, Tuscarora District, Elko County, Nevada.

7463. **Silver Ore,** Flowery District, Storey County, Nevada.

7464. **Picrolite,** Maryland Mine, Grass Valley, Nevada County, California.

7465. **Silver Ore,** Emigrant Mine, Lee District, Inyo County, California.

7466. **Silver Ore,** Columbia Ledge, Elko County, Nevada.

7467. **Silver Ore,** Gila Mine, Reveille District, Nevada.

7468. **Silver Ore,** Shark Mine, White Pine District, Nevada.

7469. **Silver Ore,** Silver Monarch Mine, Humboldt County, Nevada.

7470. **Bornite,** in Serpentine, replacing Picrolite, and retaining the form of the latter, Boston Mine, Latrobe, El Dorado County, California. S. Heydenfeldt, Jr.

7471. **Amphibole,** in Hornblende, San Bernardino County, California. M. D. Katz.

7472. **Silicified Wood,** with crystals of Hartite, near St. Helena, Napa County, California. W. J. Cozzens.

7473. **Iron Ore,** Bull Run Meadows, Tulare County, California. H. Hughes.

7474. **Iron Ore,** Arroyo de Choro, San Luis Obispo County, California. F. Adams.

7475. **Iron Ore,** Limonite, San Bernardino County, California.

7476. **Bark of Torote Tree,** Mexico. F. E. Monteverde.

Used by Mexican miners for wrapping cartridges for blasting in wet holes, as it is perfectly waterproof.

7477. **Pyrolusite,** Anhydrous Binoxide of Manganese, San Andreas, Calaveras County, California. W. D. Allen.

7478. **Silver Ore,** Meteor Mine, Lava Bed District, San Bernardino County, California. Clark Brothers.

7479. **Melaconite,** Longfellow Copper Mine, Apache County, Arizona. John Collins.

7480. **Plomoso,** Lead Ore, nugget of, from Plomoso, Arizona. Dr. J. P. Mooklar.

7481. **Lead Ore,** Caldwell County, Kentucky.

7482. **Iron Ore,** called "Car Wheel Ore," Estill County, Kentucky.

7483. **Slag,** from iron furnace of the Oregon Iron Company, Oswego, Clackamas County, Oregon. Harry Williams.

7484. **Nickel,** smelted from ore, No. 3984.

7485. **Bar of Metal,** Nickel and Copper, smelted from ore, No. 6817. F. Holm.

7486. **Slag,** produced in Nickel smelting.

7487. **Gold Quartz,** Young America Mine, Sierra County, California. P. H. Didesheimer.

7488. **Auriferous Pyrites,** West Point, Calaveras County, California. Judge S. Heydenfeldt.

7489. **Cobalt Ore,** Smaltite, Empress of India Mine, Churchill County, Nevada. Wisner G. Scott.

7490. **Nickel Ore,** high grade, London Nickel Mine, Churchill County, Nevada. Wisner G. Scott.

7491. **Galena,** Argentiferous, Garibaldi Mine, Swan District, Inyo County, California.

7492. **Flint,** incrusted in chalk, Island of Rügen, Prussia.

7493. **Stream Tin,** Nigger Hill, Rawlins District, Black Hills, Dakota. Edgar St. John.

7494. **Gold Quartz,** with free gold, Branch Meadows, Middle Fork of American River, Placer County, California. J. F. Yoder.

7495. Formerly the highest point of Mt. Tamalpais, Marin County, California.

7496. **Portion of Tooth,** probably Elephas primigenius, Dutch Flat, Placer County, California. M. D. Stone.

7497. **Gold,** from blue gravel, Spring Valley Hydraulic Mine, Cherokee, Butte County, California. Louis Glass.

7498. **Tin Ore,** Black Hills, Dakota. S. Heydenfeldt, Jr.

7499. **Vanadinite,** Arizona. Chas. R. Wores.

7500. **Anhydrite,** San Ygnacio Mine, Cerro Gordo, Inyo County, California.

7501. **Clay,** two miles from Calistoga, Napa County, California.

7502. **Coal,** South Fork of Eel River, east branch, ten miles southeast of Garberville, Humboldt County, California. Wm. Ayres.

7503. **Sandstone,** Cordero Valley, San Diego County, California. W. C. McDougal.

7504. **Gypsum,** San Joaquin County, California. Township 3 south, range 4 east, Mount Diablo meridian, Sections 9, 10, 20. P. Maddox.

7505. **Diatomaceous Earth,** Petaluma, Sonoma County, California.

7506. **Asphaltum,** Moore's Landing, Santa Barbara County, California. D. Ernest Mellis.

7507. **Diatomaceous Earth,** Lone Pine, Inyo County, California. J. M. Cook.

7508. **Calcite,** with alternate layers of green and white.

7509. **Boulder** (waterworn), Sonora, Tuolumne County, California. Jno. Walker.

7510. **Stalactites,** from a cave in the Santa Rita Mountains, Arizona. T. R. Garnier.

7511. **Quicksilver Ore,** Altoona Mine, Trinity County, California. Melville Attwood.

7512. **Hornstone,** Yuma County, Arizona.

7513. **Conglomerate,** Amargosa River, San Bernardino County, California.

7514. **Iron Ore,** Iron Mountain Mine, Sherman District, Inyo County, California.

7515. **Iron Ore,** Old Coso District, Inyo County, California.

7516. **Silver Ore,** with Copper and Galena, Grand Prize Mine, Tuscarora District, Elko County, Nevada.

7517. **Copper Ore,** Williams' Fork District, Yuma County, Arizona.

7518. **Copper Ore,** Uncle Sam Mine, Darwin District, Inyo County, California.

7519. **Copper Ore,** Clara Mine, Robinson District, White Pine County, Nevada.

7520. **Copper Ore,** Yavapai District, Arizona.

7521. **Copper Ore,** Snow's Cañon, Inyo County, California.

7522. **Copper Ore,** Hughes Mine, Calaveras County, California.

7523. **Silver Ore,** with Copper, Snow's Cañon, Inyo County, California.

7524. **Copper Ore,** Mitchell Mine, Swansea District, Inyo County, California.

7525. **Chrysocolla,** Morgantown, Berks County, Pennsylvania.

7526. **Copper Ore,** Bluestone Mine, Snow's Cañon, Inyo County, California.

7527. **Silver Ore,** with Copper, Tuba Heba District, Inyo County, California.

7528. **Silver Ore,** with Copper, Tintic District, Salt Lake, Utah.

7529. **Silver Ore,** with Copper, Snow's Cañon, Inyo County, California.

7530. **Silver Ore,** with Copper, Mineral Park, Hualapai District, Arizona.

7531. **Copper Ore,** Defiance Mine, Coso District, Inyo County, California.

7532. **Copper Ore,** Bluestone Mine, Mineral Park, Hualapai District, Arizona.

7533. **Silver Ore,** with Copper, Snow's Cañon,. Inyo County, California.

7534. **Silver Ore,** with Copper, Panamint District, Inyo County, California.

7535. **Copper Ore,** Ajo Mine, Pima County, Arizona.

7536. **Silver Ore,** with Copper, Old Fritz Mine, Panamint District, Inyo County, California.

7537. **Copper Ore,** Clara Mine, Robinson District, White Pine County, Nevada.

7538. **Copper Ore,** Ajo Mine, Pima County, Arizona.

7539. **Silver Ore,** with Copper, Globe District, Arizona.

7540. **Silver Ore,** with Copper, Pinney Mine, Panamint District, Inyo County, California.

7541. **Gold Quartz,** Black Jack Mine, Kanaka Creek, near Alleghany City, Sierra County, California.

7542. **Silver Ore,** with Copper, Robinson District, White Pine County, Nevada.

7543. **Silver Ore,** with Copper, Hualapai District, Mojave County, Arizona.

7544. **Silver Ore,** with Copper, Mountain View Mine, Panamint District, Inyo County, California.

7545. **Copper Ore,** Swansea Mine, Lone Pine District, Inyo County, California.

7546. **Silver Ore,** with Copper, Yellow Grass Mine, Cerro Gordo District, Inyo County, California.

7547. **Silver Ore,** with Copper, Baltimore Mine, Panamint District, Inyo County, California.

7548. **Silver Ore** (Argentiferous Galena), Flagstaff Mine, East Cañon, Salt Lake, Utah.

7549. **Silver Ore,** Alabama Mine, Panamint District, Inyo County, California.

7550. **Copper Ore,** Darwin, Inyo County, California.

7551. **Silver Ore,** with Copper, Eliza Mine, Williams' Fork District, Yuma County, Arizona.

7552. **Silver Ore** (Argentiferous Galena), Cactus Mine, Lee District, Inyo County, California.

7553. **Copper Ore,** Copper King Mine, Bisbee, Arizona.

7554. **Silver Ore,** with Copper, Bluestone Mine, Hualapai District, Mojave County, Arizona.

7555. **Silver Ore,** with Copper, Tintic Valley, Salt Lake, Utah.

7556. **Silver Ore** (Argentiferous Galena), Custer Mine, New Coso District, Inyo County, California.

7557. **Silver Ore,** with Copper, near Prescott, Arizona.

7558. **Silver Ore,** Hemlock Mine, Panamint District, Inyo County, California.

7559. **Silver, Native,** on Argentite, Lone Star Mine, Mineral Park, Hualapai District, Mojave County, Arizona.

7560. **Silver Ore,** Esperanza Mine, Panamint District, Inyo County, California.

7561. **Silver Ore,** Lucky Jim Mine, Coso District, Inyo County, California.

7562. **Lead Ore,** Defiance Mine, Coso District, Inyo County, California.

7563. **Antimony Ore,** St. Nicholas Mine, Triumfo, Lower California, Mexico.

7564. **Gold Quartz,** Old Coso Range, Darwin, Inyo County, California.

7565. **Silver Ore,** Concordia Mine, Bodie District, Mono County, California.

7566. **Silver Ore,** Defiance Mine, Darwin, Inyo County, California.

7567. **Manganese Ore,** fourteen miles from Fresno Flat, Fresno County, California.

7568. **Silver Ore,** West Noonday Mine, Bodie District, Mono County, California.

7569. **Silver Ore,** Alma Mater Mine, Panamint District, Inyo County, California.

7570. **Lead Ore,** Humboldt Mine, Triumfo District, Lower California, Mexico.

7571. **Gold Quartz,** California Mine, Black Hills, Dakota.

7572. **Silver Ore** (Argentiferous Galena), Minnietta Mine, Lookout District, Inyo County, California.

7573. **Silver Ore,** Keystone Mine, Mineral Park, Mojave County, Arizona.

7574. **Iron Ore,** Sheppard's Cañon, Inyo County, California.

7575. **Silver Ore,** Monitor Mine, East Belmont District, Nye County, Nevada.

7576. **Gold Quartz,** Black Jack Mine, Jim Crow Creek, Sierra County, California.

7577. **Silver Ore,** Little Cottonwood District, Salt Lake, Utah.

7578. **Copper Ore,** Snow's Cañon, Inyo County, California.

7579. **Copper Ore,** Globe District, Arizona.

7580. **Auriferous Vein Matter,** Jupiter Mine, Bodie District, Mono County, California.

7581. **Silver Ore** (Argentiferous Galena), Jefferson District, Nye County, Nevada.

7582. **Wall Rock,** foot wall of North Noonday Mine, Bodie District, Mono County, California.

7583. **Arseno-Pyrite**, Betsey Mine, Grass Valley, Nevada County, California.

7584. **Silver Ore** (Argentiferous Galena), Homestead Mine, Turkey Creek District, Yavapai County, Arizona.

7585. **Silver Ore**, with Copper, Blue Pod Mine, Mineral Park, Mojave County, Arizona.

7586. **Silver Ore**, with Copper, Blue Pod Mine, Mineral Park, Mojave County, Arizona.

7587. **United States Postal Currency**, value 25 cents. Major J. B. Davis.

7588. **Chromic Iron**, Tehama County, California. J. A. Heslewood.

7589. **Quartz Crystals** (tabular), Noonday Mine, Bodie District, Mono County, California.

7590. **Calcite**, Cactus Mine, Lee District, Inyo County, California.

7591. **Amethyst**, Noonday Mine, Bodie District, Mono County, California.

7592. **Fluorite**, Woodstock, Virginia.

7593. **Quartz Crystals**, North Noonday Mine, Bodie District, Mono County, California.

7594. **Pyrolusite**, California.

7595. **Copper Ore**, Copper Falls, Michigan.

7596. **Silver Ore**, with Manganese, Sherman District, Inyo County, California.

7597. **Silver Ore**, Bonanza King Mine, Sherman District, Inyo County, California.

7598. **Silver Ore**, very rich, Concordia Mine, Bodie District, Mono County, California.

7599. **Silver Ore**, Concordia Mine, Bodie District, Mono County, California.

7600. **Lead Ore,** Little Cottonwood District, Utah.

7601. **Barite** (Sulphate of Baryta), with free Sulphur, Defiance Mine, Darwin, Inyo County, California.

7602. **Copper Ore,** Black Metal Mine, Revenue District, Inyo County, California.

7603. **Piece of Feldspar,** taken from wall rock, Mono Mine, Bodie District, Mono County, California.

7604. **Iron Ore,** Altoona Mine, Eureka District, Nevada.

7605. **Tourmaline,** Fresno Enterprise Mine, Fresno County, California.

7606. **Auriferous Vein Matter,** Noonday Mine, Mono County, California.

7607. **Iron Ore,** Darwin, Inyo County, California.

7608. **Silver Ore,** with Copper, North Star Mine, Panamint District, Inyo County, California.

7609. **Muscovite,** Mineral Park, Mojave County, Arizona.

7610. **Lead Ore,** Lucky Jim Mine, Coso District, Inyo County, California.

7611. **Silver Ore,** Red Cloud Mine, Bodie District, Mono County, California.

7612. **Silver, Native,** Keystone Mine, Hualapai District, Mojave County, Arizona.

7613. **Chromic Iron,** Mount Hope District, Forbestown, Butte County, California.

7614. **Barite** (Sulphate of Baryta), North American Mine, Hamilton, White Pine County, Nevada.

7615. **Copper Ore,** Challenge Mine, Empire Flat, Williams' Fork District, Arizona.

7616. **Silver Ore** (Argentiferous Galena), Blue Wing Mine, Panamint District, Inyo County, California.

7617. **Silver Ore,** Samoan Mine, Lee District, Inyo County, California.

7618. **Siderite** (Carbonate of Iron), Custer Mine, Coso District, Inyo County, California.

7619. **Silver Ore**, Hualapai District, Mojave County, Arizona.

7620. **Gold Quartz**, Noonday Mine, Bodie District, Mono County, California.

7621. **Lead Ore**, Snow's Cañon, Inyo County, California.

7622. **Silver, Native**, Lone Star Mine, Mineral Park, Mojave County, Arizona.

7623. **Silver Ore**, with Copper, Minnietta Mine, Darwin, Inyo County, California.

7624. **Wall Rock**, foot wall, North Noonday Mine, Bodie District, Mono County, California.

7625. **Hornstone**, Yuma County, Arizona.

7626. **Silver Ore**, Lone Star Mine, Mineral Park, Mojave County, Arizona.

7627. **Silver Ore**, Viola Mine, Pyramid District, Grant County, New Mexico.

7628. **Silver Ore**, with Copper, Julia Mine, Panamint District, Inyo County, California.

7629. **Cobalt Ore**, Cottonwood Cañon, Lovelock's, Churchill County, Nevada.

7630. **Lead Ore**, Richer Mine, Bodie District, Mono County, California.

7631. **Silver Ore**, Jupiter Mine, Bodie District, Mono County, California.

7632. **Silver Ore**, Queen Bee Mine, Bodie District, Mono County, California.

7633. **Silver Ore**, Keystone Mine, Mineral Park, Mojave County, Arizona.

7634. **Silver Ore**, Bonanza King Mine, Sherman District, Inyo County, California.

635. **Silver Ore,** Keystone Mine, Mineral Park, Mojave County, Arizona.

636. **Silver Ore,** Oro Mine, Bodie District, Mono County, California.

637. **Silver Ore,** Lone Star Mine, Hualapai District, Mojave County, Arizona.

638. **Silver Ore,** Belvidere Mine, Bodie District, Mono County, California.

639. **Silver Ore,** Lone Star Mine, Hualapai District, Mojave County, Arizona.

640. **Silver Ore,** Jupiter Mine, Bodie District, Mono County, California.

641. **Maryland Currency,** value $8, dated 1767. G. W. Herring.

642. **Ammonite,** Inyo County, California. D. S. Woodhull.

643. **Silver Ore,** Magnet Mine, Butte District, Panamint, Inyo County, California.

644. **Silver Ore,** Blue Wing Mine, Panamint, Inyo County, California.

645. **Silver Ore,** Mountain View Mine, Panamint, Inyo County, California.

646. **Silver Ore,** Yellow Bird Mine, Panamint, Inyo County, California.

647. **Silver Ore,** Homestake Mine, Panamint, Inyo County, California.

648. **Silver Ore,** Rose Spring District, Panamint, Inyo County, California.

649. **Silver Ore,** Wyoming Mine, Panamint, Inyo County, California.

650. **Silver Ore,** Virgin Mine, Rose Spring District, Panamint, Inyo County, California.

651. **Silver Ore,** Bonanza King Mine, Sherman District, Inyo County, California.

7652. **Silver Ore,** Death Valley, Inyo County, California.

7653. **Silver Ore** (Argentiferous Galena), Hualapai District, Mojave County, Arizona.

7654. **Copper Ore,** Sonora, Mexico.

7655. **Silver Ore,** Belmont Mine, Nye County, Nevada.

7656. **Silver Ore,** Hartford Mine, Lee District, Inyo County, California.

7657. **Silver Ore,** Bonanza King Mine, Sherman District, Inyo County, California.

7658. **Silver Lead Ore,** Mitchell Mine, Swansea District, Inyo County, California.

7659. **Silver Ore,** with Copper, Troy Mine, Revenue District, Inyo County, California.

7660. **Silver Ore,** with Manganese, Slate Range, Lookout District, Inyo County, California.

7661. **Silver Ore,** Garfield District, Luning, Esmeralda County, Nevada.

7662. **Wad** (Earthy Binoxide of Manganese), Ward Beecher Mine, White Pine County, Nevada.

7663. **Calcareous Tufa,** Eberhardt Mine, White Pine District, Nevada.

7664. **Pyrolusite,** Little Pedro Mine, Tombstone District, Arizona.

7665. **Barite** (Sulphate of Baryta on Hematite), New Mexico.

7666. **Lead Ore,** Rescue Mine, Eureka County, Nevada.

7667. **Coquimbite,** Lone Pine, Inyo County, California.

7668. **Clay,** Inyo County, California. D. S. Woodhull.

7669. **Wall Rock,** hanging wall of the Schearer and Rattler Mine, Salt Creek, Shasta County, California.

7670. **Piece of an Old Cannon,** found in grading the bluffs at San Pedro, Los Angeles County, California. Benj. Hill.

7671. **Spear Head of Chert,** Salmon Creek, Mendocino County, California.

7672. **Arrowheads of Obsidian,** Salmon Creek, Mendocino County, California.

7673. **Ancient Spanish Candle,** found in an old mine in Charcas District, Chihuahua, Mexico. J. H. Holt.

The mine was opened A. D. 1600.

7674. **Indian Relic,** Alma, Santa Clara County, California. M. A. Misenheimer.

7675. **Whalebone,** from a whale eighty feet long, which drifted ashore at Caspar, Mendocino County, California, July 4, 1884. Edgar Cherry.

7676. **Wing Bone of Albatross.** James T. Ish.

7677. **Lick Ball,** taken from the stomach of a cow, Lackawanna, Pennsylvania. J. Z. Davis.

7678. **Piece of Lead Pipe,** from a room in Pompeii. J. W. Winter.

7679. **Piece of the Ship Cadmus,** in which Lafayette crossed the Atlantic to America, and which now lies under the streets of San Francisco. Frank Webster.

7680. **Indian Pestles of Stone,** vicinity of Colfax, Placer County, California. J. E. Colburn.

7681. **Indian Stone Ax,** Guatemala City, Central America. Edward A. T. Gallagher.

7682. **Indian Stone Hammer,** Guatemala City, Central America. Edward A. T. Gallagher.

7683. **Indian Stone Implement,** probably used for grinding corn, Guatemala City, Central America. Edward A. T. Gallagher.

7684. **Indian Awls and Implements of Bone.**

7685. **Confederate States Currency**, value $100. J. E. Goodall.

7686. **Clay Stone**, pierced by worms, Bay of Monterey, Monterey County, California. J. Z. Davis.

7687. **Fluor Spar** (magnificent purple specimen), Derbyshire, England. J. Z. Davis.

7688. **Smoky Quartz Crystals, and fin Crystals of Microline, or Amazon Stone**, Pike's Peak, Colorado. J. Z. Davis.

7689. **Fossil Coral** (polished), Iowa. J. Z. Davis.

7690. **Labradorite**, St. Lawrence County, New York. J. Z. Davis.

7691. **Microline**, Media, Delaware County, Pennsylvania. J. Z. Davis.

7692. **Coquina** (Shell Conglomerate), St. Augustine, Florida. J. Z. Davis.

This material is largely used as a building stone; the old fort at St. Augustine is constructed of it.

7693. **Chalcopyrite**, Calistoga, Napa County, California. J. Z. Davis.

7694. **Geode.** J. Z. Davis.

7695. **Recent Coral** (Decomposed and Silicified), Tampa Bay, Florida. J. Z. Davis.

7696. **Graphite**, Columbo, Ceylon. J. Z. Davis.

7697. **Calcareous Tufa**, Santa Cruz County, California. J. Z. Davis.

7698. **Tin**, Australia. J. Z. Davis.

An accidental crystallization produced in smelting the ore.

7699. **Arseno-Pyrite**, Bendigo Gold Field, Victoria, Australia. J. Z. Davis.

7700. **Calcite**, Nailhead Spar on Quartz, Bendigo Gold Field, Victoria, Australia. J. Z. Davis.

7701. **Pyrites of Iron**, Bendigo Gold Field, Victoria, Australia. J. Z. Davis.

Coal, Eagle House, Bendigo Gold Field, Victoria, Australia. J. Z. Davis.

7704. **Calcite,** Nailhead Spar on Quartz, covered with Crystals of Iron Pyrites, Australia. J. Z. Davis.

7705. **Copper Ore,** Longfellow Mine, Apache County, Arizona. Mr. Borgeson.

7706. **Copper Ore,** Longfellow Mine, Apache County, Arizona. Mr. Borgeson.

7707. **Copper Ore,** Longfellow Mine, Apache County, Arizona. Mr. Borgeson.

7708. **Copper Ore,** Longfellow Mine, Apache County, Arizona. Mr. Borgeson.

7709. **Copper Ore,** Longfellow Mine, Apache County, Arizona. Mr. Borgeson.

7710. **Stone Hatchet,** made and used by the Aborigines of Australia. J. Z. Davis.

7711. **Serpentine** (Polished), Ireland. John Bryant.

7712. **Chalcedony.**

7713. **Coal** (Anthracite), Carbon, Pennsylvania. J. Z. Davis.

7714. **Coal** (Anthracite), Pavonine. Peacock Coal, Carbon, Pennsylvania. J. Z. Davis.

7715. **Chrysotile,** Megantic County, Canada. J. Z. Davis.

7716. **Oligoclase** (Sunstone), Media, Delaware County, Pennsylvania. J. Z. Davis.

7717. **Aragonite** (Mexican Onyx), Pueblo, Mexico. J. Z. Davis.

7718. **Lava,** Castle Rock, Colorado. J. Z. Davis.
Much used in Denver as a building stone.

7719. **Asbestus** (Ligniform), Calaveras County, California. J. Z. Davis.

7720. **Palmetto Wood,** cross section of the Cabbage Palmetto, Cedar Keys, Florida. J. Z. Davis.

7721. **Gold Quartz,** 500-foot level of Eagle Bird Mine, Washington District, Nevada County, California. From the Company.

7722. **Wall Rock,** foot wall, Eagle Bird Mine, Washington District, Nevada County, California. From the Company.

7723. **Wall Rock,** foot wall, with vein matter, Eagle Bird Mine, Washington District, Nevada County, California. From the Company.

7724. **Wall Rock,** hanging wall, Eagle Bird Mine, Washington District, Nevada County, California. From the Company.

7725. **Gold Quartz,** 1,400-foot level, 1,169 feet east of shaft, Idaho Mine, Grass Valley, Nevada County, California. From the Company.

7726. **Wall Rock,** hanging wall, Idaho Mine, Grass Valley, Nevada County, California. From the Company.

7727. **Wall Rock,** foot wall, Idaho Mine, Grass Valley, Nevada County, California. From the Company.

7728. **Gold Quartz,** 850-foot level, Nevada City Mine, Nevada City, Nevada County, California. From the Company.

7729. **Wall Rock,** foot wall, 850-foot level, Nevada City Mine, Nevada City, Nevada County, California. From the Company.

7730. **Wall Rock,** hanging wall, 850-foot level, Nevada City Mine, Nevada City, Nevada County, California. From the Company.

7731. **Gold Quartz,** Young America Mine, Sierra County, California. From the Company.

7732. **Wall Rock,** foot wall, Young America Mine, Sierra County, California. From the Company.

7733. **Wall Rock,** foot wall of No. 2 Tunnel, Young America Mine, Sierra County, California. From the Company.

7734. **Wall Rock,** extreme hanging wall, Young America Mine, Sierra County, California. From the Company.

7735. **Wall Rock,** hanging wall, Young America Mine, Sierra County, California. From the Company.

7736. **Gold Quartz,** Ural Ledge, Providence Mine, Nevada County, California. Specimen taken 250 feet from end of cross-cut south, about 500 feet west of the Providence Shaft on the 600-foot level of the Providence Mine. From the Company.

7737. **Gold Quartz,** from the foot wall of the Ural Vein, Providence Mine. From the Company.

7738. **Wall Rock,** hanging wall, Ural Vein, Providence Mine. From the Company.

7739. **Gold Quartz,** from near the hanging wall of the Providence Mine. From the Company.

7740. **Auriferous Vein Matter,** Providence Mine. From the Company.

7741. **Auriferous Vein Matter,** Providence Mine. From the Company.

7742. **Gold Quartz,** from near the hanging wall of the Providence Mine. From the Company.

7743. **Wall Rock,** foot wall, Providence Mine. From the Company.

7744. **Wall Rock,** foot wall on the contact, Providence Mine, Nevada County, California. From the Company.

7745. **Wall Rock,** hanging wall, Providence Mine, Nevada County, California. From the Company.

7746. **Gold Quartz,** 1,500-foot level, north; Empire Mine, Grass Valley, Nevada County, California. From the Company.

7747. **Gold Quartz,** 1,500-foot level, south; Empire Mine, Grass Valley, Nevada County, California. From the Company.

7748. **Wall Rock,** foot wall, Empire Mine, Grass Valley, Nevada County, California. From the Company.

7749. **Wall Rock,** hanging wall, Empire Mine, Grass Valley, Nevada County, California. From the Company.

7750. **Gold Quartz,** from the 300-foot level (vertical depth, 135 feet), Chicago Mine, Nevada City, Nevada County, California. From the Company.

7751. **Auriferous Vein Matter,** from near the foot wall of the Chicago Mine, Nevada City, Nevada County, California. From the Company.

7752. **Wall Rock,** hanging wall, Chicago Mine, Nevada City, Nevada County, California. From the Company.

7753. **Wall Rock,** from near hanging wall of the Chicago Mine, Nevada City, Nevada County, California. From the Company.

7754. **Wall Rock,** foot wall of Chicago Mine, Nevada City, Nevada County, California. From the Company.

7755. **Gold Quartz,** 1,300-foot level, west; North Star Mine, Grass Valley, Nevada County, California. From the Company.

7756. **Wall Rock,** foot wall, North Star Mine, Grass Valley, Nevada County, California. From the Company.

7757. **Wall Rock,** hanging wall, North Star Mine, Grass Valley, Nevada County, California. From the Company.

7758. **Gold Quartz,** Little Gem Mine, Deadwood District, Trinity County, California. This specimen shows the entire width of the vein, with wall rock attached. From the Company.

7759. **Auriferous Vein Matter,** from the middle of the vein of the Little Gem Mine, Deadwood District, Trinity County, California. From the Company.

7760. **Wall Rock,** foot wall of Little Gem Mine, Deadwood District, Trinity County, California. From the Company.

7761. **Wall Rock,** hanging wall of Little Gem Mine, Deadwood District, Trinity County, California. From the Company.

7762. **Gold Quartz,** with wall rock attached, McDonald Mine, Deadwood District, Trinity County, California. From the Company.

7763. **Gold Quartz,** Delhi Mine, Nevada County, California. E. H. Garthwaite.

7764. **Wall Rock,** Delhi Mine, Nevada County, California. E. H. Garthwaite.

7765. **Diatomaceous Earth,** Port Hadlock, Puget Sound, Washington Territory. J. F. Kennedy.

7766. **Tin Ore** (Stream Tin), New Mexico.

7767. **Tin Ore** (Cassiterite), Zumwald, Saxony.

7768. **Mispickel** (Arsenical Pyrite rich in Gold), Eagle Mine, Kanaka Creek, Sierra County, California.

7769. **Gold Quartz,** Kenton Mine, Kanaka Creek, Sierra County, California.

7770. **Copper Ore,** Copper World Mine, San Bernardino County, California.

7771. **Copper Ore,** Keystone Mine, Calaveras County, California.

7772. **Cobalt Ore,** Cottonwood Cañon, near Lovelock's, Nevada.

773. **Cobalt Ore,** Cottonwood Cañon, near Lovelock's, Nevada.

774. **Cobalt and Nickel Ore,** Cottonwood Cañon, near Lovelock's, Nevada.

7775. **Chalco-Pyrite,** Queen Charlotte's Island, British Columbia.

7776. **Tourmaline,** Enterprise Mine, Fresno County, California.

7777. **Garnet,** Yavapai District, Arizona.

7778. **Garnet,** on Feldspar, Bohemia.

7779. **Talc,** Peacock Mine, Darwin District, Inyo County, California.

7780. **Chalcedony,** Columbia River, Oregon.

7781. **Quartz,** Iridescent, Cottonwood Cañon, near Lovelock's, Nevada.

7782. **Cinnabar,** New Idria Mine, Fresno County, California.

7783. **Bindheimite,** Cottonwood Cañon, near Lovelock's, Nevada.

7784. **Moss Agate,** Black Hills, Dakota.

7785. **Halite,** Colorado Desert, Mojave County, Arizona.

7786. **Sulphur** (crude), Little Lake, Inyo County, California.

7787. **Biotite,** China.

7788. **Smithsonite,** Bethlehem, Pennsylvania.

7789. **Copper** (native), Lake Superior.

7790. **Quartz,** False Topaz, Bald Mountain Mine, Sierra County, California.

7791. **Sulphur,** with Fluor Spar and Gypsum, Defiance Mine, Inyo County, California.

7792. **Calcite,** Coso District, Inyo County, California.

7793. **Calcite,** Iceland Spar, Coso District, Inyo County, California.

7794. **Pisolite,** Darwin Falls, Inyo County, California.

7795. **Tourmaline,** Storey County, Nevada.

7796. **Aragonite,** Devonshire, England.

7797. **Hornstone Geode,** lined with Chalcedony, Palisade, Elko County, Nevada.

7798. **Copper Ore,** Planet Mine, Williams' Fork District, Yuma County, Arizona.

7799. **Copper Ore,** Knowles Mine, Williams' Fork District, Yuma County, Arizona.

7800. **Silver Ore** (Argentiferous Galena and Sphalerite), Bronze Mine, Eureka District, Yuma County, Arizona.

7801. **Silver Ore,** Keystone Mine, Mineral Park, Mojave County, Arizona.

7802. **Lead Ore,** Margarita Mine, Eureka District, Yuma County, Arizona.

7803. **Silver Ore,** Oregon Mine, Nevada.

7804. **Copper Ore,** with Native Copper, Planet Mine, Williams' Fork District, Yuma County, Arizona.

7805. **Silver Ore,** Keystone Mine, Hualapai District, Mojave County, Arizona.

7806. **Silver Ore,** Defiance Mine, Darwin District, Inyo County, California.

7807. **Copper Ore,** Wyoming Mine, Panamint District, Inyo County, California.

7808. **Silver Ore,** with Copper, Challenge Mine, Panamint District, Inyo County, California.

7809. **Copper Ore,** Stewart's Wonder Mine, Panamint District, Inyo County, California.

7810. **Copper Ore,** Wyoming Mine, Panamint District, Inyo County, California.

7811. **Silver Ore,** Bonanza King Mine, Sherman District, Inyo County, California.

7812. **Silver Ore,** with Native Silver, Keystone Mine, Mineral Park, Mojave County, Arizona.

7813. **Malachite and Azurite,** Cranberry Plains, Virginia.

7814. **Copper Ore,** Globe District, Arizona.

7815. **Copper Ore,** Williams' Fork District, Yuma County, Arizona.

7816. **Copper Ore,** Cliff Mine, Panamint District, Inyo County, California.

7817. **Copper Ore,** Harrison Mine, Panamint District, Inyo County, California.

7818. **Silver Ore,** with Copper, Little Chief Mine, Panamint District, Inyo County, California.

7819. **Silver Ore,** Bonanza King Mine, Sherman District, Inyo County, California.

7820. **Silver Ore,** Bonanza King Mine, Sherman District, Inyo County, California.

7821. **Silver Ore,** Bonanza King Mine, Sherman District, Inyo County, California.

7822. **Copper Ore,** Tintic Valley District, Salt Lake, Utah.

7823. **Copper Ore,** Mojave County, Arizona.

7824. **Silver Ore,** with Native Silver, Lone Star Mine, Hualapai District, Mojave County, Arizona.

7825. **Silver Ore,** with Native Silver, Lone Star Mine, Hualapai District, Mojave County, Arizona.

7826. **Silver Ore,** Ward Beecher Mine, White Pine District, Nevada.

7827. **Silver Ore**, Minnietta Mine, Snow's Cañon, Inyo County, California.

7828. **Silver Ore**, Natalia Mine, Sherman District, Inyo County, California.

7829. **Copper Ore**, Bluestone Mine, Hualapai District, Mojave County, Arizona.

7830. **Silver Ore**, Marvel Mine, Panamint District, Inyo County, California.

7831. **Vivianite** (Phosphate of Iron), Dundas County, Victoria, Australia. J. Z. Davis.

7832. **Rutile**, in Matrix of Mica, Stony Point, North Carolina. J. Z. Davis.

7833. **Wall Rock**, Stonewall Mine, Julian District, San Diego County, California. W. S. Keyes.

7834. **Gold Quartz**, Stonewall Mine, Julian District, San Diego County, California. W. S. Keyes.

7835. **Wall Rock**, Owens' Mine, Julian District, San Diego County, California. W. S. Keyes.

7836. **Gold Quartz**, Wallis Ledge, Yuba County, California. A. B. Paul.

7837. **Meteoric Iron**, Jenny's Creek, Wayne County, West Virginia. G. F. Kunz.

7838. **Quartz**, with Dendrites of Manganese, Noonday Mine, Bodie, Mono County, California.

7839. **Auriferous Vein Matter**, Mountain Mine, Nevada City, Nevada County, California.

7840. **Tin Ore**, Temescal, San Bernardino County, California.

7841. **Quartz Crystals**, coated with Manganese, Bodie, Mono County, California.

7842. **Wall Rock**, hanging wall, North Noonday Mine, Bodie, Mono County, California.

7843. **Silver Ore**, with Copper, Highbridge Mine, Belmont, Nye County, Nevada.

7844. **Calcite** (Mammilliary Stalactite), Cactus Mine, Lee District, Inyo County, California.

7845. **Silver Ore** (Argentiferous Galena), Homestake Mine, Turkey Creek District, Yavapai County, Arizona.

7846. **Gold Quartz**, Kanaka Creek, Sierra County, California.

7847. **Silver Ore**, Cherry Creek, White Pine County, Nevada.

7848. **Silver Ore**, Combination Mine, Belmont, Nye County, Nevada.

7849. **Silver Ore**, Peerless Mine, Yavapai County, Arizona.

7850. **Gold Quartz**, Merrifield Mine, Nevada City, Nevada County, California.

7851. **Silver Ore**, Plymouth Mine, Idaho.

7852. **Silver Ore** (Argentiferous Galena), Montezuma Mine, Little Cottonwood District, Salt Lake, Utah.

7853. **Silver Ore** (Argentiferous Galena), Rosario Mine, Eureka District, Yuma County, Arizona.

7854. **Silver Ore**, with Native Silver, Navajo Mine, Tuscarora District, Nevada.

7855. **Silver Ore**, Cerbat Mine, Hualapai District, Mojave County, Arizona.

7856. **Silver Ore**, Pinky Mine, Hualapai District, Mojave County, Arizona.

7857. **Lead Ore**, Rush Valley District, Salt Lake, Utah.

7858. **Lead Ore**, Castle Dome Mine, Yuma County, Arizona.

7859. **Silver Ore**, with Copper, Lone Pine, Inyo County, California.

7860. **Silver Ore**, Setting Sun Mine, Mineral Park District, Mojave County, Arizona.

Silver Ore, with Native Silver, Lone Star Mine, Hualapai District, Mojave County, Arizona.

Silver Ore, with Native Silver, Grand Prize Mine, Tuscarora District, Elko County, Nevada.

Silver Ore (Argentiferous Galena), Woodworth Mine, Hualapai District, Mojave County, Arizona.

Silver Ore, Modoc Mine, Lookout District, Inyo County, California.

Lead Ore, Philadelphia Mine, Ketchum, Wood River, Alturas County, Idaho.

Silver Ore, with Native Silver, Teckatticup Mine, El Dorado District, Mojave County, Arizona.

Silver Ore (Argentiferous Galena), Silver King Mine, Stockton, Salt Lake, Utah.

Gold Quartz, Oriental Mine, Alleghany City, Sierra County, California.

Silver Ore, Edgar Mine, Treasure Hill, White Pine County, Nevada.

Silver Ore, Hackberry Mine, Mojave County, Arizona.

Silver Ore, Buden Mine, Mineral Park, Hualapai District, Mojave County, Arizona.

Silver Ore, Buden Mine, Mineral Park, Hualapai District, Mojave County, Arizona.

Silver Ore, Lone Star Mine, Hualapai District, Mojave County, Arizona.

Gold Quartz, Providence Mine, Nevada City, Nevada County, California.

Silver Ore, with Native Silver, Wood Mine, Hualapai District, Mojave County, Arizona.

Silver Ore (Argentiferous Galena), Davenport Mine, Little Cottonwood Cañon, Salt Lake, Utah.

Lead Ore, Flora Temple Mine, Castle Dome, Yuma County, Arizona.

7878. **Tourmaline,** Lee District, Inyo County, California.

7879. **Porcelain Jasper,** Coso District, Inyo County, California.

7880. **Pyroxene,** var. Coecolite, Oxbow, Jefferson County, New York.

7881. **Titanite,** St. Lawrence County, New York.

7882. **Zircon,** Renfrew, Ontario, Canada.

7883. **Shell Conglomerate** (fossil), Port Hadlock, Puget Sound, Washington Territory. J. F. Kennedy.

7884. **Limestone,** Aker's Cañon, Cajon Pass, one and a half miles northeast of Ivanhoe, and sixteen miles north of San Bernardino, San Bernardino County, California. M. D. Katz.

7885. **Gold Quartz,** Golden Eagle Mine, Shasta County, California. A. B. Paul.

7886. **Gangue,** Star Quicksilver Mine, Pope Valley District, Napa County, California. M. T. Rhodes.

7887. **Cinnabar,** in Quartz, Star Quicksilver Mine, Pope Valley District, Napa County, California. M. T. Rhodes.

7888. **Cinnabar,** in Serpentine, Phœnix Mine, Pope Valley District, Napa County, California. M. T. Rhodes.

7889. **Cinnabar,** Crystallized, Washington Mine, Pope Valley District, Napa County, California. M. T. Rhodes.

7890. **Cinnabar and Calcite,** Star Mine, Pope Valley District, Napa County, California. M. T. Rhodes.

7891. **Sedimentary Deposit,** from vein matter of the Quicksilver Mines, Pope Valley District, Napa County, California. M. T. Rhodes.

7892. **Quicksilver Ore,** Washington Mine, Pope Valley District, Napa County, California. M. T. Rhodes.

7893. **Cinnabar and fossil Resin,** in Serpentine, 500 feet from surface, Star Mine, Pope Valley District, Napa County, California. M. T. Rhodes.

7894. **Silver Ore,** Mammoth Mine, Treasure Hill, White Pine District, Nevada.

7895. **Silver Ore,** with Copper, Mountain Queen Mine, Lone Pine, Inyo County, California.

7896. **Silver Ore,** Silver Tail Mine, Hualapai District, Mojave County, Arizona.

7897. **Silver Ore,** Original Hidden Treasure Mine, White Pine District, Nevada.

7898. **Gold Quartz,** Bellevue Consolidated Mine, Nevada City, Nevada County, California.

7899. **Silver Ore,** with Copper, Yavapai District, Arizona.

7900. **Silver Ore,** with Native Silver, Floral Hill Mine, Owyhee, Idaho.

7901. **Gold Quartz,** and Mispickel, Eagle Mine, Kanaka Creek, Sierra County, California.

7902. **Auriferous Vein Matter,** Independence Mine, Inyo County, California.

7903. **Silver Ore,** with Copper, Luning, Esmeralda County, Nevada.

7904. **Silver Ore,** Monitor Mine, Taylor District, White Pine County, Nevada.

7905. **Coquimbite,** Chile.

7906. **Whalebone,** ornamented by a sailor with a needle, 1810. William H. Briggs.

7907. **Slickens,** from the Spring Valley Hydraulic Mine, Cherokee, Butte County, California. Louis Glass.

The central light-colored streak shows the amount deposited in twenty-four hours.

7908. **Asphaltum,** from the foot of Mount Lebanon, near Harbeya, Syria. G. Heuter.

7909. **Lava,** Mauna Loa, Hawaii. Captain H. G. Moore.

7910. **Lava,** Kilauea, Hawaii. R. M. Daggett.

7911. **Coral Conglomerate,** Honolulu, Hawaii.
Brought to San Francisco in 1849, and used as building stone in the construction of two small warehouses on the waterfront.

7912. **Silver Ore** (Argentiferous Galena and Zinc Blende), Alotepeque District, Guatemala. Chas. Jamesworth.

7913. **Brown Coal,** from the Rhine, Germany.

7914. **Brown Coal,** Brunswick, Germany.

7915. **Stone,** of which the Cathedral of Cologne, Germany, is built.

7916. **Rock Specimen,** Oahu, Hawaii.

7917. **Quartz,** imported from Belgium for glass making. C. Newman.

7918. **Andalusite,** Tsukuba San, Japan.

7919. **Piedmontite,** occurs with Stibnite, Bessi Iyo Province, Japan.

7920. **Ottrelite,** Kakegawa, Japan.

7921. **Glaucophane,** Otaki San, Japan.

7922. **Obsidian Chips,** found in large quantities in Guatemala. Ed. A. T. Gallagher.

7923. **Silver Ore,** with Linarite, Pan de Azucar Mine, Tolina, U. S. of Colombia. Carlos Faulhaber.

7924. **Silver Ore** (Argentiferous Galena), Raspacanilla Mine, Tolina, U. S. of Colombia. Carlos Faulhaber.

7925. **Coal** (Anthracite), Gunnison, Colorado. Edward E. Cheever.

7926. **Silver Ore,** Ish's Cove, Alaska. James T. Ish.

7927. **Metacinnabarite,** Southern Utah. H. Greenman.

7928. **Gold Ore,** Telluride (Sylvanite), Last Chance Mine, Jamestown, Boulder County, Colorado. Z. A. Willard.

7929. **Gold Ore,** Telluride (Sylvanite) Roasted, Smuggler Mine, Jamestown, Boulder County, Colorado. Z. A. Willard.

7930. **Croppings,** Oregon Nickel Mine, Piny Mountain, Cow Creek, Cañonville, Douglass County, Oregon.

7931. **Country Rock,** Hoover Hill Gold Mine, Davidson County, North Carolina.

7932. **Brown Coal,** Brandon, Vermont.

7933. **Coal,** Admiralty Island, Alaska. E. O. C. Acker.

7934. **Spiegleisen,** Artificial. J. Francis Cox.

7935. **Tourmaline,** Dos Cabesas Mountain, Pima County, Arizona.

7936. **Chromic Iron,** occurs with Nickel Ore at Piney Mountain, Cow Creek, Cañonville, Douglass County, Oregon.

7937. **Silver Ore,** Belle of Butte Mine, Montana. Silver Bow Mining and Milling Company.

7938. **Amethyst,** on Silicified Wood. Arizona.

7939. **Tin Ore** (Stream Tin), from decomposed Granite, Takayama, Japan.

7940. **Gold Quartz,** Eagle Bird Mine, Washington District, Nevada County, California. Frederic E. Shearer.

7941. **Country Rock,** Sierra Madre and Sierra Bella Mines, Lake Valley District, New Mexico. S. Heydenfeldt, Jr.

7942. **Croppings,** Sierra Madre and Sierra Bella Mines, Lake Valley District, New Mexico. S. Heydenfeldt, Jr.

7943. **Silver Ore,** Sierra Madre and Sierra Bella Mines, Lake Valley District, New Mexico. S. Heydenfeldt, Jr.

7944. **Silver Ore,** Sierra Madre and Sierra Bella Mines, Lake Valley District, New Mexico. S. Heydenfeldt, Jr.

7945. **Silver Ore,** Sierra Madre and Sierra Bella Mines, Lake Valley District, New Mexico. S. Heydenfeldt, Jr.

7946. **Silver Ore,** Sierra Madre and Sierra Bella Mines, Lake Valley District, New Mexico. S. Heydenfeldt, Jr.

7947. **Silver Ore,** Sierra Madre and Sierra Bella Mines, Lake Valley District, New Mexico. S. Heydenfeldt, Jr.

7948. **Silver Ore,** Sierra Madre and Sierra Bella Mines, Lake Valley District, New Mexico. S. Heydenfeldt, Jr.

7949. **Silver Ore,** Sierra Madre and Sierra Bella Mines, Lake Valley District, New Mexico. S. Heydenfeldt, Jr.

7950. **Silver Ore,** Sierra Madre and Sierra Bella Mines, Lake Valley District, New Mexico. S. Heydenfeldt, Jr.

7951. **Silver Ore,** Sierra Madre and Sierra Bella Mines, Lake Valley District, New Mexico. S. Heydenfeldt, Jr.

7952. **Wulfenite,** Pima County, Arizona.

7953. **Serpulas vermetus** (Tam.), Santa Barbara, California. J. Z. Davis.

7954. **Silver Ore** (Cerargyrite), New Mexico. Capt. Jay G. Kelly.

7955. **Silver Ore** (Argentiferous Galena), Silver Cave Mine, near Deming, New Mexico. H. W. Schmidt.

7956. **Silver Ore,** with Native Silver, Blue Bell Mine, Burro Mountains, New Mexico. James Johnson.

7957. **Amethyst,** Todos Santos Mine, Kingston, New Mexico. Jay G. Kelly.

7958. **Rock Specimen,** Steeple Rock District, New Mexico. Hon. Jos. Wasson.

7959. **Porphyry,** New Mexico. Hon. Jos. Wasson.

7960. **Rock Specimen,** Steeple Rock District, New Mexico. Hon. Jos. Wasson.

7961. **Rock Specimen,** Country Rock, Steeple Rock District, New Mexico. Hon. Jos. Wasson.

7962. **Hematite,** Pseudomorph after Magnetite, Frisco, Beaver County, Utah. C. Jefferson Clark.

7963. **Bismutite** (Carbonate of Bismuth), Colorado. Thomas Lowthan.

7964. **Bismutite** (Carbonate of Bismuth), from dry washing, fifty miles northwest of Phœnix, Arizona.

7965. **Chromite** (Chromic Iron), Santiam, Oregon. C. W. Burrage.

7966. **Iron Ore** (Magnetite), Santiam, Oregon. C. W. Burrage.

7967. **Stibnite** (Antimony Ore), Mountain House District, Missoula County, Montana. Captain Ellis.

7968. **Calcite,** New Mexico. J. G. Manning.

7969. **Magnetite** (occurs with Bismutite, No. 7964), fifty miles northwest of Phœnix, Arizona.

7970. **Zinc Blende and Galena,** Silver City, New Mexico. Hon. Jos. Wasson.

7971. **Rubies, Zircons, etc.,** concentrations from a hydraulic mine at Kiandra, New South Wales. Al. Havens.

7972. **Lignite,** surrounded by Sandstone, found 500 feet below the surface in the Spring Valley Hydraulic Mine, Cherokee, Butte County, California. Louis Glass.

7973. **Lignite,** from No. 7972.

7974. **Silver Ore,** Carmen Mine, Jocustita, Mexico. S. Rawlings.

7975. **Silver Ore, Carmen Mine, Jocustita, Mexico.** S. Rawlings.

7976. **Silver Ore,** Carmen Mine, Jocustita, Mexico. S. Rawlings.

7977. **Silver Ore,** Guadalupana Mine, Jocustita, Mexico. J. S. Rawlings.

7978. **Silver Ore,** San Vicente Mine, Jocustita, Mexico. J. S. Rawlings.

7979. **Silver Ore,** Yauco Mine, Jocustita, Mexico. S. Rawlings.

7980. **Silver Ore,** very rich, Sombrerete Mine, Sombrerete District, Zacatecas, Mexico. John D. Coughlin.

7981. **Silver Ore,** with Ruby Silver, Sombrerete Mine Sombrerete District, Zacatecas, Mexico. C. J. Adams.

7982. **Silver Ore,** Campanero Mine, Sonora, Mexico. A. E. Roberts.

7983. **Silver Ore,** Sahuaripa Mine, Sonora, Mexico. A. E. Roberts.

7984. **Silver Ore** (Argentiferous Galena), La Preciosa Mine, San Andres District, Puebla, Mexico. F. E. Monteverde.

7985. **Silver Ore,** Velera Mine, Trinidad, Sonora, Mexico. F. E. Monteverde.

7986. **Silver Ore,** Guadalupe de los Reyes Mine, Sinaloa, Mexico. F. E. Monteverde.

7987. **Lignite,** with impressions of leaves and ferns, Alma Mines, Sonora, Mexico. F. E. Monteverde.

7988. **Stromeyrite,** Mexico.

7989. **Native Silver,** Batopilas, Mexico. Mrs. J. A. Comerford.

7990. **Native Silver,** Batopilas, Mexico. Mrs. J. A. Comerford.

7991. **Native Silver,** Batopilas, Mexico. Mrs. J. A. Comerford.

7992. **Silver Ore,** Silver Deer Mine, Quebradilla, Durango, Mexico. W. W. Stillwagon.

7993. **Silver Ore,** Colmena, Mexico.

7994. **Silver Ore,** San Juan Mine, Otates, Mexico. Solis, Bronn & Co.

7995. **Silver Ore,** Santa Teodora Mine, Otates, Mexico. Solis, Bronn & Co.

7996. **Silver Ore,** Santa Teodora Mine, Otates, Mexico. Solis, Bronn & Co.

7997. **Tin Ore** (Wood Tin), Durango, Mexico.

7998. **Tin Ore** (Cassiterite), Laon, Mexico.

7999. **Auriferous Vein Matter,** Muletos Mine, Sierra Madre, Sonora, Mexico. A. E. Roberts.

8000. **Gold Quartz,** Miquera Mine, Vera Cruz, Mexico. F. E. Monteverde.

8001. **Native Copper,** headwaters of the McKenzie River, Cassiar District, British Columbia. B. N. Lowe.

8002. **Copper Ore,** Zaragoza Mine, Vera Cruz, Mexico. F. E. Monteverde.

8003. **Iron Ore,** Zopilote Mine, Vera Cruz, Mexico. F. E. Monteverde.

8004. **Coal,** said to be suitable for blacksmithing, Northern Sonora, Mexico. J. G. Manning.

8005. **Coal** (Anthracite), Alma Mines, Hermosillo District, Sonora, Mexico. F. E. Monteverde.

8006. **Bituminous Shale,** Northern Sonora, Mexico. J. G. Manning.

8007. **Copper Ore,** San Anselmo Mine, Vera Cruz, Me ex-
ico. F. E. Monteverde.

8008. **Clay,** used in the Mint in the City of Mexico f for
making crucibles, etc., San Juan del Rio, Mexic co.
J. Z. Davis.

8009. **Silver Ore** (Argentiferous Galena), Santa Julian ana
Mine, Sonora, Mexico. D. W. C. Morgan.

8010. **Silver Ore,** with Copper, Santa Juliana Mine nes,
Sonora, Mexico. D. W. C. Morgan.

8011. **Antimony Ore,** thirty miles inland from Salina nas,
Mexico. Edward Booth.

8012. **Antimony Ore,** thirty miles inland from Salina nas,
Mexico. Edward Booth.

8013. **Clay,** used for muffles, crucibles, etc., Sinaloa, Mex ex-
ico. F. E. Monteverde.

8014. **Clay,** used for muffles, crucibles, etc., Sinaloa, Mex ex-
ico. F. E. Monteverde.

8015. **Silver Ore** (Argentiferous Galena), Trinidad Mine nes,
Sierra Madre, Sonora, Mexico. A. E. Roberts. s.

8016. **Silver Ore,** with Pyrolusite and Rhodonite, Trini rini-
dad Mines, Sierra Madre, Sonora, Mexico. A. E . E.
Roberts.

8017. **Silver Ore,** with Copper, Trinidad Mines, Sier rra
Madre, Sonora, Mexico. A. E. Roberts.

8018. **Silver Ore,** with Copper, Lead, Antimony, an nd
Arsenic, Trinidad Mines, Sierra Madre, Sonor ra,
Mexico. A. E. Roberts.

8019. **Crocidolite,** Orange River, South Africa. J. Z.
Davis.

8020. **Crocidolite,** Orange River, South Africa. J. Z.
Davis.

8021. **Iron Ore** (Hematite), Stirling Iron Mine, S t.
Helena, Napa County, California. Dr. J. .
Hood.

8022. **Sand,** containing Zircons, Cherokee, Butte County, California. J. Z. Davis.

8023. **Sand,** containing Garnets, Green's Creek, Delaware County, Pennsylvania. J. Z. Davis.

8024. **Water Monkey,** made by the natives of the Ra Coast, Viti Levu, Fiji Islands.

Interesting from its close resemblance to the pottery of the ancient Peruvians.

8025. **Gold Quartz,** Star Mine, Sonora, Tuolumne County, California. Dr. Drake.

8026. **Gold Quartz,** Star Mine, Sonora, Tuolumne County, California. Dr. Drake.

8027. **Wall Rock,** hanging wall, Star Mine, Sonora, Tuolumne County, California. Dr. Drake.

8028. **Wall Rock,** foot wall, Star Mine, Sonora, Tuolumne County, California. Dr. Drake.

8029. **Gold Quartz,** Blue Blazes Mine, Sonora, Tuolumne County, California. Dr. Drake.

8030. **Gold Quartz,** Blue Blazes Mine, Sonora, Tuolumne County, California. Dr. Drake.

8031. **Wall Rock,** hanging wall, Blue Blazes Mine, Sonora, Tuolumne County, California. Dr. Drake.

8032. **Wall Rock,** foot wall, Blue Blazes Mine, Sonora, Tuolumne County, California. Dr. Drake.

8033. **Country Rock,** Gneiss, vicinity of Blue Blazes and Star Mines, Sonora, Tuolumne County, California. Dr. Drake.

8034. **Concentrations** obtained in washing the gravel of the river bars for gold, Uncomphagre River, Colorado. John H. Martin.

A. Magnetite. B. Carbonate of Copper. C. Antimony, Lead, and Silver. D. Hematite. E. Rock containing Sulphides of Antimony, Lead, and Silver.

8035. **Carbonate and Sulphate of Magnesia,** St. Louis Mine, Patagonia District, Arizona. P. S. Buckminster.

8036. **Silver Ore** (Cerargyrite), Calico, San Bernardino County, California. D. T. Hughes.

8037. **Silver Ore,** Calico, San Bernardino County, California. D. T. Hughes.

8038. **Calcite,** South Fork of Yuba River. D. T. Hughes.

8039. **Slate,** Tablazo Hydraulic Mine, United States of Colombia. D. T. Hughes.

8040. **Roofing Tile,** Church of San Felipe, Mariquita, United States of Colombia. D. T. Hughes.

8041. **Rock Specimen,** Country Rock of Guaruno District, United States of Colombia. D. T. Hughes.

8042. **Rock Specimen,** Sandstone, west bank of Magdalena River, United States of Colombia. D. T. Hughes.

8043. **Concrete,** portion of pillar at entrance of Church of San Felipe, Mariquita, United States of Colombia. D. T. Hughes.

8044. **Fossils,** from Central Range of Andes overlooking the Mariquita Plains, near San Luis, United States of Colombia. D. T. Hughes.

8045. **Rock Specimen,** Limestone, from bluff at bridge over the River Coclo, United States of Colombia. D. T. Hughes.

8046. **Fossils,** from the fortifications of the Ancient City of Cartagena, United States of Colombia. T. D. Hughes.

8047. **Fossil Resin,** Santander, United States of Colombia. D. T. Hughes.

8048. **Rock Specimen,** portion of archway of Church of San Felipe, Mariquita, United States of Colombia. D. T. Hughes.

8049. **Brick** (Soft), from floor of Church of San Felipe, Mariquita, United States of Colombia. D. T. Hughes.

8050. **Cinchona Bark,** United States of Colombia. D. T. Hughes.

. **Fossils,** Ammonites, twenty miles west of Willows, Colusa County, California. S. H. Angell.

. **Brick** (Hard), from walls of Church of San Felipe, Mariquita, United States of Colombia. D. T. Hughes.

. **Gold Quartz,** carrying Silver, Cooke Lode, Bocanema, Rio Sueio, Central Range of the Andes, United States of Colombia. D. T. Hughes.

. **Silver Ore,** Sapo Mine, Tolima, United States of Colombia. D. T. Hughes.

. **Copper,** native, Copper Queen Mine, Bisbee, Arizona. Jay G. Kelly.

. **Copper Ore,** Fibrous Malachite, on a mixture of Hematite and Malachite, Copper King Mine, Mojave County, Arizona. John Flinn.

. **Sponge,** Elongated, Pescadero, San Mateo County, California. J. Z. Davis.

. **Gold Quartz,** Young America Mine, Sierra County, California. From the company.

. **Copper Ore,** Malachite, with crystals of calcite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

. **Copper Ore,** Hematite and Limonite, with crystals of native copper, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

. **Clay,** indurated by copper salts in solution. Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

. **Clay,** indurated by copper and iron salts in solution, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

. **Clay,** indurated by copper and iron salts in solution, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

. **Calcite** (Dogtooth Spar), on Limonite and Hematite, colored by copper salts, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8065. **Slag,** showing metallic copper, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8066. **Copper.** Bars smelted from Copper Queen ores, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8067. **Copper Ore,** Cuprite on Limonite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8068. **Copper Ore,** Cuprite with Malachite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8069. **Copper Ore,** Cuprite on Limonite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8070. **Copper Ore,** Cuprite with Iron and Alumina, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8071. **Copper,** Native, on Limonite, Copper Queen Mine, Bisbee, Arizonia. Ben. Williams.

8072. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8073. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8074. **Copper Ore,** Malachite and Melaconite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8075. **Copper Ore,** Malachite and Cuprite coated with Limonite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8076. **Copper Ore,** Malachite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8077. **Copper Ore,** Malachite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8078. **Copper Ore,** Malachite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8079. **Copper Ore,** Malachite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8080. **Copper Ore,** Malachite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8081. **Copper Ore,** Malachite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8082. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8083. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8084. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8085. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8086. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8087. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8088. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8089. **Copper Ore,** Azurite on Melaconite and Limonite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8090. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8091. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8092. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8093. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8094. **Copper Ore,** Malachite and Melaconite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8095. **Copper Ore,** Geode of Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8096. **Copper Ore,** Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8097. **Coal** (Bituminous), Black Prince Mine, two miles east of toll-gate, Cajon Pass, San Bernardino County, California. J. R. Scupham.
Bed four feet thick.

8098. **Gold Quartz,** Cisco Consolidated Mine, 2 miles from Cisco, Placer County, California. S. Gum— binner.

8099. **Epidote and Garnet,** with Molybdenite, 14 miles from Lake Tahoe, California. G. W. Gallanar.
Said to form a ledge six feet wide.

8100. **Molybdenite,** from No. 8099. G. W. Gallanar.

8101. **Skull of Rattlesnake,** Crotalus lucifer, showing the poison fangs. J. Z. Davis.

8102. **Sulphur** (Crude Japanese), as imported to San Francisco. P. Caduc.

8103. **Sulphur,** sublimed from No. 8102 at the Sicilian Sulphur Works, San Francisco. P. Caduc.

8104. **Sulphur** (Native), from the volcano of Krakatoa, Straits of Sunda, Eastern Archapelago. J. J. Ives.

8105. **Lead Ore** (Cerussite), Carbonate of Lead, Argentiferous, 180 miles south of Sydney, New South Wales. J. J. Ives.

8106. **Skin of Lace Lizard,** Hyarosaurus varius (young). Australia. J. Z. Davis.

8107. **Obsidian** (altered), mistaken for coal. Calabasas, Arizona. A. E. Roberts.

8108. **Chromic Iron,** one and a half miles from Nevada City, Nevada County, California. Claude Watts.
Said to be thirty feet wide between walls.

8109. **Wall Rock,** hanging wall of Chromic Iron, one and a half miles from Nevada City, Nevada County, California. Claude Watts.

8110. **Wall Rock,** foot wall of Chromic Iron, one and a half miles from Nevada City, Nevada County, California. Claude Watts.

8111. **Sulphate of Alumina,** Steamboat Springs, Washoe County, Nevada. F. E. Fielding.

8112. **Solar Salt,** Virginia Salt Marsh, Esmeralda County, Nevada. J. R. Scupham.

8113. **Borax,** natural crystals (Tincal), Virginia Salt Marsh, Esmeralda County, Nevada. J. R. Scupham.

8114. **Silver Ore,** said to be rich in Gold, Monitor Mine, Battle Mountain, Nevada. Geo. W. Emerson.

8115. **Silver Ore,** said to be rich in Gold, Mammoth Mine, near Galena, Nevada. Geo. W. Emerson.

8116. **Argentiferous Lead** (Base Bullion), Pioche, Lincoln County, Nevada. Mrs. H. H. Day.

8117. **Wall Rock,** hanging wall, De Soto Mine, Sheba Ledge, Star District, Nevada.

8118. **Silver Ore,** De Soto Mine, Sheba Ledge, Star District, Nevada.

8119. **Silver Ore,** De Soto Mine, Sheba Ledge, Star District, Nevada.

8120. **Wall Rock,** foot wall, De Soto Mine, Sheba Ledge, Star District, Nevada.

8121. **Silver Ore,** Western Mine, Downieville, Nye County, Nevada. Downie, Murray & Co.

8122. **Silver Ore,** Golden Fleece Mine, Peavine District, Nevada.

8123. **Rock Specimen,** from the deep winze in the Mexican Mine, Comstock Lode, Virginia City, Nevada, taken at the depth of 3,563 feet below the Gould and Curry croppings, the deepest workings on the Comstock Lode. W. H. Patton.

8124. **Wulfenite,** Tucson Mountains, Arizona. Chas. R. Wores.

8125. **Descloizite and Vanadinite,** San Pedro, Arizona. Chas. R. Wores.

8126. **Descloizite**, San Pedro, Arizona. Chas. R. Wores.

8127. **Rock Specimen**, near New Year Mine, Soda Springs, Esmeralda County, Nevada. Melville Attwood.

8128. **Thinolite**, Pyramid Lake, Roop Co., Nevada. Col. Febiger, U. S. A.

8129. **Basanite**, Elko, Nevada. J. Z. Davis.

8130. **Jasper**, with veins of Chrysocolla, Elko, Nevada. J. Z. Davis.

8131. **Flint**, Humboldt County, Nevada. W. D. Minckler.

8132. **Hornstone**, Humboldt County, Nevada. W. D. Minckler.

8133. **Moss Agate**, Humboldt County, Nevada. W. D. Minckler.

8134. **Pisolite**, Pyramid Lake, Roop County, Nevada. W. D. Minckler.

8135. **Boracic Acid**, made from Borate of Lime by the Formhals process, Columbus, Esmeralda County, Nevada.

8136. **Cimolite**, Nevada. Standard Soap Company.

8137. **Bindheimite**, Dug Out Mine, Eureka District, Nevada. H. M. Levy.

8138. **Ulexite**, Antofagasta, Chile, Liceo de Valparaiso.

8139. **Caliche**, Carmen Alto, Tarapaca, Chile, Liceo de Valparaiso.

This is the crude material from which the Nitrate of Soda of commerce is obtained. Some portions of the sample show the violet tint indicating the presence of Iodine, also obtained in considerable quantities as a bye product in refining the crude Nitre.

8140. **Copiapite**, Copiapo, Chile. Messrs. Gilson and Rabe.

8141. **Magnetic Iron Sand**, Schischi-clri-gori, Harima, Japan.

8142. **Ornamental Stone,** Steatitic Slate, Machiya mura, Kuji-gori Kitachi, Japan.

Called by the Japanese "Bamboo leaf Marble," from the resemblance of the spots to bamboo leaves.

8143. **Copper Pyrites,** Osarusawa, Ugo, Japan.

8144. **Sphalerite,** Zinc Blende, Jabarahira, Yoshiki-gori, Hida, Japan.

8145. **Silver** (Native, on Argentite), Aikawa Sado, Niigata-ken, Japan.

8146. **Galena,** Daira, Yamamoto-gori, Ugo, Japan.

8147. **Gypsum,** Kami-gori, Rikuzen, Japan.

8148. **Bornite** (Argentiferous), Omodani, Yechizen, Japan.

8149. **Graphite,** Yoshiki-gori, Hida, Japan.

8150. **Magnetite,** in crystals on hornblende schist, Kigen, Nagasaki, Japan.

8151. **Cinnabar,** Komagayeri mura, Unda-gori, Yamato, Japan.

8152. **Copper Pyrites,** Bessi Uma-gori, Iyo, Japan.

8153. **Clausthalite** (Selenite of Lead), Cacheuta Mine, Mendoza, Argentine Republic, South America. Dr. Jno. Rabe.

8154. **Hydromagnesite** (Carbonate of Magnesia), Livermore, Alameda County, California. W. P. Bartlett.

8155. **Diatomaceous Earth,** Carlin, Nevada. J. H. Suggett.

8156. **Fossil Shells,** San Emidio Antimony Mine, Kern County, California. S. Boushey.

Found at an elevation of six thousand feet above the sea level.

8157. **Gold Quartz,** Ikuno Mine, Japan. K. Yamada, M. E.

8158. **Gold Quartz,** Ikuno Mine, Japan. K. Yamada, M. E.

8159. **Gold Quartz,** Ikuno Mine, Japan. K. Yamada, M. E.

8160. **Gold Quartz,** Ikuno Mine, Japan. K. Yamada, M. E.

8161. **Gold Quartz,** Ikuno Mine, Japan. K. Yamada, M. E.

8162. **Gold Quartz,** Ikuno Mine, Japan. K. Yamada, M. E.

8163. **Gold Quartz,** Ikuno Mine, Japan. K. Yamada, M. E.

8164. **Rock Specimen,** Silicious Clay Slate, Big Bend Tunnel, North Fork of Feather River, Butte County, California. From the Company.

8165. **Rock Specimen,** Quartz, Big Bend Tunnel, North Fork of Feather River, Butte County, California. From the Company.

8166. **Rock Specimen,** Silicious Clay Slate, with Sulphurets of Iron, Big Bend Tunnel, North Fork of Feather River, Butte County, California. From the Company.

8167. **Wall Rock,** hanging wall, Valentine Mine, Mohawk Valley, Plumas County, California. From the Company.

8168. **Auriferous Vein Matter,** Valentine Mine, Mohawk Valley, Plumas County, California. From the Company.

8169. **Wall Rock,** foot wall, Valentine Mine, Mohawk Valley, Plumas County, California. From the Company.

8170. **Coal,** Clover Creek, Shasta County, California.

8171. **Coal,** San Benito County, California. Mr. Brewer.

8172. **Antimony Ore** (Stibnite), San Pete County, Utah. J. R. Hall.

8173. **Antimony Ore,** Little May Mine, Bowlder Creek, Wood River District, Idaho. A. N. Guptill.

8174. **Antimony Ore,** Vienna Mining Company, Alturas County, Idaho. Henry Guyer.

8175. **Antimony Ore,** Bowlder Creek, Wood River District, Idaho. A. N. Guptill.

8176. **Antimony Ore,** Mountain King Mine, Alturas County, Idaho. A. N. Guptill.

8177. **Silver Ore** (Argentiferous Galena), May Flower Mine, Wood River District, Idaho.

8178. **Silver Ore** (Argentiferous Galena), Queen of the Hills Mine, Mineral Hill District, Alturas County, Idaho. L. A. Dithmer.

8179. **Silver Ore** (Argentiferous Galena), Capitol Mine, Mineral Hill District, Alturas County, Idaho. L. A. Dithmer.

8180. **Silver Ore,** Winterset Mine, Little Smoky District, Alturas County, Idaho. L. A. Dithmer.

8181. **Silver Ore,** Boreas Mine, Mineral Hill District, Alturas County, Idaho. L. A. Dithmer.

8182. **Silver Ore,** Fourth of July Mine, Little Smoky District, Alturas County, Idaho. L. A. Dithmer.

8183. **Silver Ore,** Alturas Mine, Alturas County, Idaho. L. A. Dithmer.

8184. **Silver Ore,** Occident Mine, Mineral Hill District, Alturas County, Idaho. L. A. Dithmer.

8185. **Silver Ore,** Black Warrior Mine, Lucin District, Utah. L. A. Dithmer.

8186. **Silver Ore,** Silver King Mine, Sawtooth District, Alturas County, Idaho. Chas. Dobler.

8187. **Silver Ore** (Argentiferous Galena), Red Cloud Mine, Bear Butte District, Black Hills, Dakota. J. Bartley.

8188. **Sinopite,** Red Iron Claystone.

8189. **Massicot** (Litharge), probably artificial.

8190. **Silver Ore,** Modesto Mine, Mariposa County, California. Chas. G. Schnieder.

8191. **Orthoclase,** with Quartz and Mica.

8192. **Silicified Wood,** found fifty feet below the surface in a hydraulic mine on Sec. 33, T. 15, R. 10 E. Placer County, California. E. G. Spencer.

8193. **Silicified Wood,** California.

8194. **Group of Quartz Crystals,** California.

8195. **Group of Quartz Crystals,** California.

8196. **Group of Quartz Crystals,** California.

8197. **Moss Agate,** Deer Creek, Tulare County, California. H. Hughes.

8198. **Silicified Wood,** polished.

8199. **Lower Jaw** of large shark ("man eater"), Talcahuana Bay, Chile. Dr. John Rabe.

8200. **Albatross,** Southern Chile. Drs. C. B. Davies and John Rabe.

8201. **Flying Fish,** caught 1,000 miles due west of Valparaiso, Chile. Dr. John Rabe.

8202. **Confederate Currency,** value $10. Jas. Gray.

8203. **Aragonite,** two miles from Upper Soda Springs, near Berryville, Siskiyou County, California. L. A. Hale.

8204. **Calcite,** nail-head spar.

8205. **Calcite,** dog-tooth spar.

8206. **Calcite** (Carbonate of Lime), Santa Ana Mountains, Los Angeles County, California. J. E. Pleasants.

8207. **Water-worn Pebble,** remarkable for its close approach to a perfect sphere.

8208. **Spear Point** of Obsidian, found in a shell mound in the Visitacion Valley, San Francisco, California.

8209. **Chalcedony,** fragment broken from a large mass.

8210. **Quartz Geode,** Fox River, Illinois.

8211. **Smoky Quartz Crystal,** Pike's Peak, Colorado.

8212. **Botryogen** (Red Iron Vitriol), Death Valley, Inyo County, California. J. M. Keeler.

8213. **Kalinite** (Potash Alum), near Newhall, Los Angeles County, California. N. Winants.

8214. **Fossil Shells,** in Limestone, Limekiln Quarry, near San José, Santa Clara County, California. J. Z. Davis.

8215. **Rock Specimen,** Chloropal, from the Blue Gravel Lead, Nevada County, California. J. Z. Davis.

8216. Chloropal. J. Z. Davis.

8217. **Hydromagnesite** (Carbonate of Magnesia), Pleasanton, Alameda County, California. C. M. Grattan.

8218. **Limestone,** Paso Robles, San Luis Obispo County, California. D. Blackburn.

8219. **Chrysolite,** with Calcite, near Independence, Inyo County, California. D. S. Woodhull.

8220. **Titanite and Orthoclase,** with Pyroxene.

8221. **Muscovite** (Mica).

8222. **Quartz** of various colors, Market Street Cut, San Francisco. J. Z. Davis.

8223. **Ophiolite,** Market Street Cut, San Francisco. J. Z. Davis.

8224. **Ophiolite,** Market Street Cut, San Francisco. J. Z. Davis.

8225. **Sandstone,** Port Harford, San Luis Obispo County, California. John Harford.

8226. **Silicified Wood,** with Sand conglomerate, Port Harford, San Luis Obispo County, California. John Harford.

8227. **Sand, impregnated with a large proportion of Petroleum and Asphaltum,** near Point Arena, Mendocino County, California. J. Condon.

8228. **Red Earth,** Gulch at Zacatecas, Mexico. J. Z. Davis.

8229. **Pebbles,** fourteen varieties, Pescadero Beach, San Mateo County, California. J. Z. Davis.

8230. **Rhus integrifolia,** California wood, San Pedro, Los Angeles County, California. Benj. Hill.

8231. **Calcite,** curiously worn by water or drifting sand.

8232. **Gold Quartz,** showing free gold, Hard Tack Mine, New River District, Trinity County, California. Ladd & Clement.

8233. **Gold in Calcite,** Minersville, Trinity County, California. Hubert Vischer.

8234. **Iron Ore** (Hematite), eight miles east of Tombstone, Arizona. J. J. Johnson.

8235. **Silver Ore** (Argentiferous Galena), Triumphant Mine, Harshaw District, Pima County, Arizona. P. J. McNamee.

8236. **Silver Ore** (Argentiferous Galena), Southern Arizona. Dr. W. D. Johnston.

8237. **Silver Ore** (Argentiferous Galena), Montezuma Mine, near Wickenberg, Maricopa County, Arizona.

8238. **Silver Ore** (Argentiferous Galena), Dean Richmond Mine, Tombstone, Arizona.

8239. **Silver Ore** (Argentiferous Galena), South Pioneer Mine, Pioneer District, Gila County, Arizona. Chas. Dobler.

8240. **Zinc Ore** (Sphalerite), South Pioneer Mine, Pioneer District, Gila County, Arizona. Chas. Dobler.

8241. **Grossularite** (Iron Lime Garnet), near Florence, Arizona.

8242. **Silver Ore,** Montana Mine, Globe District, Arizona. Collin Fraser.

8243. **Silver Ore,** Tombstone District, Cochise County, Arizona. Mr. Pillsbury.

8244. **Silver Ore,** rich specimen, Pioneer Mine, Pioneer District, Gila County, Arizona. Chas. Dobler.

8245. **Silver Ore,** Contact Mine, Swisshelm District, Cochise County, Arizona. C. F. Hine.

8246. **Leucopyrite** (Prismatic Arsenical Pyrites), Alpine County, California. Wm. Aegerter.

8247. **Silver Ore,** Virginia Mine, Tombstone District, Arizona. J. G. Manning.

8248. **Silver Ore,** Way Up Mine, Tombstone District, Arizona. J. G. Manning.

8249. **Silver Ore,** Phœnix Mine, Tombstone District, Arizona. J. G. Manning.

8250. **Silver Ore,** Ingersoll Consolidated Mine, Tombstone District, Arizona. J. G. Manning.

8251. **Silver Ore,** Grove Mine, Humbug District, Yavapai County, Arizona. George A. Vinzent.

8252. **Silver Ore,** Hidden Treasure Mine, Yavapai County, Arizona.

8253. **Silver Ore,** Red Line Mine, Santa Catalina, Pima County, Arizona.

8254. **Lead Ore,** Red Line Mine, Santa Catalina, Pima County, Arizona.

8255. **Silver Ore,** rich specimen, South Pioneer Mine, Gila County, Arizona. Charles Dobler.

8256. **Copper Ore,** five miles east of Picket Post, Pinal County, Arizona.

8257. **Copper Ore,** Old Dominion Mine, Globe District, Arizona. A. M. Lawver.

Contains a small amount of free gold.

8258. **Silver Ore** (Argentiferous Galena), Bullwhacker Mine, Huachuca Mountains, Cochise County, Arizona. E. M. Alderman.

8259. **Lead Ore,** Specimen Mine, Plomoso District. Dr. J. P. Mooklar.

8260. **Alum,** crystallized from 8111.

8261. **Fluor Spar,** Whetstone Mountains, Cochise County, Arizona. J. G. Manning.

8262. **Calcite,** Patagonia District, Arizona. P. S. Buckminster.

8263. **Quartz and Jasper,** Reed Ranch, Marin County, California. H. S. Durden.

8264. **Chalcedony,** plains near Gila Bend, Arizona.

8265. **Gold Quartz,** Yankee Jim's, Placer County, California. Chas. Trafton.

8266. **Chromic Iron,** Yankee Jim's, Placer County, California. Chas. Trafton.

8267. **Manganese Ore,** Yankee Jim's, Placer County, California. Chas. Trafton.

8268. **Silicified Wood,** Yankee Jim's, Placer County, California. Chas. Trafton.

8269. **Iron Ore** (Bog Ore), Yankee Jim's, Placer County, California. Chas. Trafton.

8270. **Lithomarge,** Yankee Jim's, Placer County, California. Chas. Trafton.

8271. **Rock Specimen,** Serpentine, with veins of Picrolite, Yankee Jim's, Placer County, California. Chas. Trafton.

8272. **Slate,** Yankee Jim's, Placer County, California. Chas. Trafton.

8273. **Topaz,** Japan; weight, 78.36 ounces Troy, or 4062.18 carats.

8274. **Roscoelite,** a Vanado-silicate, with free gold, Stuckslager or Sam Sims Mine, Coloma, El Dorado County, California.

8275. **Gold Quartz,** showing free Gold and Telluride of Gold, Neale's Mine, near Sonora, Tuolumne County, California.

8276. **Calaverite** (Telluride of Gold), with Gold Quartz showing free Gold, Neale's Mine, near Sonora, Tuolumne County, California.

8277. **Roscoelite,** a Vanado-silicate, with free Gold, Stuckslager or Sam Sims Mine, near Coloma, El Dorado County, California.

8278. **Malachite** (Carbonate of Copper), showing Fossil Plants, Copper Queen Mine, Bisbee, Arizona. Ben. Williams.

8279. **Iron Ore** (Limonite), Jackson County, Oregon. C. W. Burrage.

8280. **Coal,** Chugachick Bay, Alaska. J. M. Cooper.

8281. **Iron Ore** (Micaceous Hematite), near Jacksonville, Oregon. H. S. Brown.

8282. **Sphere of Rock Crystal.**

8283. **Aragonite,** Nevada. John Bryant.

8284. **Tin Ore** (Cassiterite), Dolcoath Mine, Camborne, Cornwall, England. John Bryant.

8285. **Carboniferous Shale,** eight miles from Elk Creek, Colusa County, California. W. H. Wilton.

8286. **Silicious deposit,** found in the Great Western Quicksilver Mine, Lake County, California. M. G. Rhodes.

Under a magnifying glass it shows numerous small globules of native mercury.

8287. **Silicious deposit,** found in the Great Western Quicksilver Mine, Lake County, California. M. G. Rhodes.

Under a magnifying glass it shows numerous small globules of native mercury.

8288. **Cinnabar,** with Iron Pyrites and Calcite, Ætna Mine, Pope Valley, Napa County, California. M. G. Rhodes.

8289. **Coal.** R. H. Sinton.

8290. **Copper Ore** (Chrysocolla), in Serpentine, one mile from Smithville, Colusa County, California. W. H. Wilton.

8291. **Rock Specimen,** Country Rock, near the Total Wreck Mine, Pentana Station, Southern Pacific Railroad, Arizona. J. R. Scupham.

8292. **Copper Ore,** with Limonite and Calcite, Eureka, Nevada. Jno. Bryant.

8293. **Copper Ore,** with Limonite and Calcite, Eureka, Nevada. Jno. Bryant.

8294. **Gold in Limonite,** Caldera, Chile. Messrs. Chas. Gilson and Jno. Rabe.

8295. **Rock Crystal,** Madagascar. Dr. Jno. Rabe.

8296. **Anglesite, Linarite, and Caledonite,** Modoc Mine, Inyo County, California. Dr. W. C. Parker.

8297. **Cobalt Ore** (Erythrite), Chile. Dr. Jno. Rabe.

8298. **Calcanthite** (Sulphate of Copper), Chile. Dr. Jno. Rabe.

8299. **Granite,** twelve miles south of Angol, Chile. Dr. Jno. Rabe.

8300. **Rock Specimens,** from a large balanced rock at Neuka Heva, Marquesas Islands, formerly "Tabu," or considered sacred by the natives, and where they buried the heads of their dead, to be safe from their enemies. Dr. Jno. Rabe.

8301. **Gypsum,** Crystallized, Peru. Dr. Jno. Rabe.

8302. **Gold Quartz,** showing free Gold, Keyes' Mine, White River, Tulare County, California. Vein from six to ten inches wide. F. A. Borrett.

8303. **Gold Quartz,** Sierra Buttes Mine, Sierra County, California. Extracted in 1886. From the Company.

8304. **Wall Rock,** hanging wall, Sierra Buttes Mine, Sierra County, California. From the Company.

8305. **Wall Rock,** foot wall, Sierra Buttes Mine, Sierra County, California. From the Company.

8306. **Epsomite** (Sulphate of Magnesia), near Point Firmin, Los Angeles County, California. Mrs. A. E. Bush.

8307. **Styloptypite,** Copiapo, Chile. Dr. Jno. Rabe.

8308. **Gold Quartz,** Oro Plata Mine, Murphy's, Calaveras County, California. From the Willard Mining Company.

8309. **Rock Specimen,** from the vein of the Oro Plata Mine, Murphy's, Calaveras County, California. From the Willard Mining Company.

8310. **Rock Specimen,** from the vein of the Oro Plata Mine, Murphy's, Calaveras County, California. From the Willard Mining Company.

8311. **Diatomaceous Earth,** Ocean Beach, Santa Monica, Los Angeles County, California. Mrs. A. E. Bush.

8312. **Silver Ore,** Broken Hill Mine, Silverton, New South Wales, Australia. Wm. C. Wilson.

8313. **Silver Ore,** Bromide and Chloride of Silver in gangue of Kaolin, containing also numerous Garnets, Broken Hill Mine, Silverton, New South Wales, Australia. Wm. C. Wilson.
Assay by Luckhardt & Co.: 336.62 ounces Silver per ton.

8314. **Silver Ore,** Bromide and Chloride of Silver in gangue of Kaolin, Broken Hill Mine, Silverton, New South Wales, Australia. Wm. C. Wilson.
Assay by Luckhardt & Co.: 235.75 ounces Silver per ton.

8315. **Gold and Silver Ore,** Tui Creek, Ohniuri County, New Zealand. H. H. Adams.
Assay by Luckhardt & Co.: Gold, $22 60; Silver, $21 87 per ton.

8316. **Gold and Silver Ore,** Tui Creek, Ohniuri County, New Zealand. H. H. Adams.
Assay by Luckhardt & Co.: Gold, $170 82; Silver, $63 19 per ton.

8317. **Gold and Silver Ore**, Tui Creek, Ohniuri County, New Zealand. H. H. Adams.
Assay by Luckhardt & Co.: Gold, $15 07; Silver, $10 93 per ton.

8318. **Gold and Silver Ore**, Tui Creek, Ohniuri County, New Zealand. H. H. Adams.
Assay by Luckhardt & Co.: Gold, $5 03; Silver, $6 07 per ton.

8319. **Gold and Silver Ore**, Tui Creek, Ohniuri County, New Zealand. H. H. Adams.
Assay by Luckhardt & Co.: Gold, $4 08; Silver, $2 43 per ton.

8320. **Garnet**, Wakefield, Ontario. J. Z. Davis.

8321. **Silver Ore** (Argentiferous Galena and Zincblende), Cherry Creek, British Columbia. J. C. Senderling.

8322. **Lead Ore**, Highland Mine, Kootenai Lake District, British Columbia. S. D. Brown.

8323. **Lead Ore**, Niagara Mine, Kootenai Lake District, British Columbia. S. D. Brown.

8324. **Lead Ore**, Victoria Mine, Kootenai Lake District, British Columbia. S. D. Brown.

8325. **Lead Ore**, Lulu Mine, Kootenai Lake District, British Columbia. S. D. Brown.

8326. **Lead Ore**, Blue Bell Mine, Kootenai Lake District, British Columbia. S. D. Brown.

8327. **Lead Ore**, Comfort Mine, Kootenai Lake District, British Columbia. S. D. Brown.

8328. **Lead Ore**, London Mine, Kootenai Lake District, British Columbia. S. D. Brown.

8329. **Lead Ore**, New Jerusalem Mine, Kootenai Lake District, British Columbia. S. D. Brown.

8330. **Lead Ore**, Kootenai Chief Mine, Kootenai Lake District, British Columbia. S. D. Brown.

8331. **Lead Ore**, with Zincblende, Grimes Mine, Kootenai Lake District, British Columbia. S. D. Brown.

8332. **Lead Ore**, with Iron, Jim Blaine Mine, Kootenai Lake District, British Columbia. S. D. Brown.

8333. **Copper Ore**, with Galena, Quick Discovery Mine, Kootenai Lake District, British Columbia. S. D. Brown.

8334. **Country Rock**, Limestone, Kootenai Lake District, British Columbia. S. D. Brown.

8335. **Copper Ore**, twelve miles above Bonner's Ferry, on the Kootenai River, Kootenai County, Idaho. S. D. Brown.

8336. **Lead Ore**, Pen d' Oreille River, near its confluence with Salmon River, Kootenai County, Idaho. S. D. Brown.

8337. **Graphite**, very impure, Vancouver Island. B. C. H. Green.

8338. **Vein Matter**, in which gold is found in layers and pockets, Shaw Mine, one and a half miles west of the Town of El Dorado, El Dorado County, California. D. W. C. Morgan.

8339. **Lace Lizard**, Hydrosaurus Varius, Australia. J. Z. Davis.

8340. **Colemanite**, near Calico, San Bernardino County, California. Harmony Borax Company.

8341. **Obsidian**, Glass Mountain, Napa County, California. Mrs. Brown.

8342. **Wulfenite**, Yuma Mine, fourteen miles west of Tucson, Arizona. Chas. R. Wores.

8343. **Diatomaceous Earth**, hills near San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

8344. **Wulfenite**, Eureka, Nevada.

8345. **Lead Ore**, Lang Syne Mine, Humboldt County, Nevada.

8346. **Wall Rock**, Hanging Wall, Lang Syne Mine, Humboldt County, Nevada.

8347. **Rock Specimen**, Wright and Wentworth Mine, Humboldt County, Nevada.

8348. **Silver Ore,** Wright and Wentworth Mine, Humboldt County, Nevada.

8349. **Silver Ore,** with Arseno-Pyrites, Wright and Wentworth Mine, Humboldt County, Nevada.

8350. **Silver Ore,** Mount Potosi Mine, Candelaria, Esmeralda County, Nevada.

8351. **Silver Ore,** Northern Belle Mine, Candelaria, Esmeralda County, Nevada.

8352. **Silver Ore,** Mount Diablo Mine, Candelaria, Esmeralda County, Nevada.

8353. **Silver Ore,** from 350 foot level of Mount Diablo Mine, Candelaria, Esmeralda County, Nevada.

8354. **Silver Ore,** taken from above the water level, Ontario Mine, Utah.

8355. **Silver Ore,** Morning Star Mine, Leadville, Colorado.

8356. **Silver Ore,** North Extension of the Bonanza King Mine, Providence, San Bernardino County, California.

8357. **Silver Ore,** Rattler Mine, Providence, San Bernardino County, California.

8358. **Cast Iron,** from an amalgamating pan after use in the Bonanza King Mine, Providence, San Bernardino County, California.

It has become as soft as Graphite, and saturated with Quicksilver.

8359. **Obsidian,** Pit River, California.

8360. **Rock Specimen,** vicinity of the Bonanza King Mine, Providence, San Bernardino County, California.

8361. **Rock Specimen,** vicinity of the Bonanza King Mine, Providence, San Bernardino County, California.

8362. **Rock Specimen,** vicinity of the Bonanza King Mine, Providence, San Bernardino County, California.

8363. **Rock Specimen,** vicinity of the Bonanza King Mine, Providence, San Bernardino County, California.

8364. **Rock Specimen,** vicinity of the Bonanza King Mine, Providence, San Bernardino County, California.

8365. **Rock Specimen,** vicinity of the Bonanza King Mine, Providence, San Bernardino County, California.

8366. **Rock Specimen,** vicinity of the Bonanza King Mine, Providence, San Bernardino County, California.

8367. **Rock Specimen,** vicinity of the Bonanza King Mine, Providence, San Bernardino County, California.

8368. **Rock Specimen,** vicinity of the Bonanza King Mine, Providence, San Bernardino County, California.

8369. **Stone Ax,** found on the farm of Abner Cathers, Cecil County, Maryland. J. Z. Davis.

8370. **Auriferous Vein Matter,** Louisa Mine, Coulterville, Mariposa County, California.

8371. **Gold Quartz,** Newcastle, Placer County, California.

8372. **Gold Quartz,** Mohegan Mine, Nevada City, Nevada County, California.

8373. **Gold Quartz,** Thomas Mine, Nevada City, Nevada County, California.

8374. **Silver Ore** (Argentiferous Galena and Zinc Blende), Socorro Mine, Volcano, Amador County, California.

8375. **Mimetite** (Arseniate of Lead), Cacario, Durango, Mexico. H. H. Ward.

8376. **Lignite,** Dutch Pit, La Porte, Plumas County, California.

8377. **Coking Coal,** with Fossil Resin.

8378. **Wood,** probably in process of change into Lignite, Butte County, California.

8379. **Apatite,** with Mica, Canada.

8380. **Auriferous Cement Gravel,** Shearer Mine, Nevada City, Nevada County, California.

8381. **Pseudomorphs of Chalcopyrites after Tetrahedrite,** French Gulch Falls, Pennsylvania. F. E. Monteverde.

8382. **Sphalerite and Calcite,** Joplin, Jasper County, Missouri. J. Z. Davis.

8383. **Iron Pyrites and Zinc Blende,** Joplin, Jasper County, Missouri. J. Z. Davis.

8384. **Sphalerite and Calcite,** Joplin, Jasper County, Missouri. J. Z. Davis.

8385. **Sphalerite,** Joplin, Jasper County, Missouri. J. Z. Davis.

8386. **Sphalerite and Calcite,** Joplin, Jasper County, Missouri. J. Z. Davis.

8387. **Sphalerite, Iron Pyrites, and Calcite,** Joplin, Jasper County, Missouri. J. Z. Davis.

8388. **Sphalerite, Iron Pyrites, and Calcite,** Joplin, Jasper County, Missouri. J. Z. Davis.

8389. **Iron Pyrites,** Joplin, Jasper County, Missouri. J. Z. Davis.

8390. **Galena with Sphalerite and Iron Pyrites,** Joplin, Jasper County, Missouri. J. Z. Davis.

8391. **Sphalerite and Calcite,** Joplin, Jasper County, Missouri. J. Z. Davis.

8392. **Rock Specimen,** Epidote, Bonanza King Mill, San Bernardino County, California.

8393. **Rock Specimen,** Trachyte, Bonanza King Mill, San Bernardino County, California.

8394. **Rock Specimen,** Hornblende, Bonanza King Mill, San Bernardino County, California.

8395. **Gold Quartz,** Ironbound Mine, Volcano, Amador County, California.

8396. **Gold Quartz,** Crystal Mine, Shingle Springs, El Dorado County, California.

8397. **Gold Quartz,** Crystal Mine, Shingle Springs, El Dorado County, California.

8398. **Sphalerite** (Zinc Blende), Isle of Man.

8399. **Silver Ore,** Golden Chariot Mine, Owyhee County, Idaho. S. Linkton.

8400. **Silver Ore,** Grand Prize Mine, Elko County, Nevada. S. Linkton.

8401. **Gold Quartz,** showing free Gold, Tajo Mine, Rosario District, Sinaloa, Mexico. F. E. Monteverde.

8402. **Silver Ore** (Stephanite), Tajo Mine, Rosario District, Sinaloa, Mexico. F. E. Monteverde.

8403. **Silver Ore,** California Mine, Hermosillo District, Sonora, Mexico. F. E. Monteverde.

8404. **Silver Ore,** Cocinera Mine, Hermosillo District, Sonora, Mexico. F. E. Monteverde.

8405. **Silver Ore,** Estaca Mine, Guadalupe de Los Reyes District, Sinaloa, Mexico. F. E. Monteverde.

8406. **Silver Ore,** Topia Mine, Sinaloa, Mexico. F. E. Monteverde.

8407. **Wall Rock,** hanging wall, Moore Mine, Jackson, Amador County, California. W. A. Nevills.

8408. **Gold Quartz,** showing free Gold, Moore Mine, Jackson, Amador County, California. W. A. Nevills.

8409. **Wall Rock,** foot wall, Moore Mine, Jackson, Amador County, California. W. A. Nevills.

8410. **Wall Rock,** hanging wall, Nevills' Mine, Amador County, California. W. A. Nevills.

8411. **Gold Quartz,** from tunnel at depth of 750 feet below the surface, Nevills' Mine, Middle Bar, Amador County, California. W. A. Nevills.

8412. **Wall Rock,** foot wall, Nevills' Mine, Middle Bar, Amador County, California. W. A. Nevills.

8413. **Iron Ore** (Hematite), Malone, Canada.

8414. **Iron Ore** (Magnetite), Dufferin Mine, Madoc, Canada.

8415. **Iron Ore** (Magnetite), Fiegel Lode, Malone, Canada.

8416. **Auriferous Vein Matter,** Tuttle Shaft, Marmora, Canada.

8417. **Auriferous Vein Matter,** Hawkeye Mine, Gatling, Marmora, Canada.

8418. **Auriferous Vein Matter,** Gillen Mine, Marmora, Canada.

8419. **Auriferous Vein Matter,** South Hawkeye Mine, Marmora, Canada.

8420. **Auriferous Vein Matter,** Marmora, Canada.

8421. **Auriferous Vein Matter,** showing free Gold, Middle Vein, Gatling, Marmora, Canada.

8422. **Auriferous Vein Matter,** C. Shaft, Gatling, Marmora, Canada.

8423. **Auriferous Vein Matter,** South Hawkeye Mine, Marmora, Canada.

8424. **Auriferous Vein Matter,** Tuttle Shaft, Marmora, Canada.

8425. **Gold Quartz,** showing free Gold, C. Shaft, Gatling, Marmora, Canada.

8426. **Gold Quartz,** showing free Gold, Middle Vein, Gatling, Marmora, Canada.

8427. **Gold Quartz,** showing free Gold, Gatling, Marmora, Canada.

Gold Quartz, showing free Gold, "Deep Shaft," Gatling, Marmora, Canada.

Auriferous Vein Matter, "Deep Shaft," Gatling, Marmora, Canada.

Auriferous Vein Matter, Tuttle Shaft, Marmora, Canada.

Auriferous Vein Matter, Middle Vein, Gatling, Marmora, Canada.

Auriferous Vein Matter, Tuttle Shaft, Marmora, Canada.

Auriferous Vein Matter, "Deep Shaft," Gatling, Marmora, Canada.

Auriferous Vein Matter, Tuttle Shaft, Marmora, Canada.

Auriferous Vein Matter, Neal Shaft, Malone, Canada.

Auriferous Vein Matter (Croppings), Gatling, Marmora, Canada.

Lead Ore, Marmora, Canada.

Lead Ore (Galena), near Marmora, Canada.

Rock Specimen, Mormon Shaft, Gatling, Marmora, Canada.

Rock Specimen, Neal Shaft, Gatling, Marmora, Canada.

Rock Specimen, Fiegel Lode, Marmora, Canada.

Rock Specimen (Syenite), Gatling, Marmora, Canada.

Rock Specimen (Syenite), Gatling, Marmora, Canada.

Concentrations, Continental Silver Mine, South Fork District, Shasta County, California. From the Company.

8445. **Feldspar,** Pseudomorph, after Calcite.

8446. **Calcite Crystals,** on Basalt, Australia. J. Z. Davis.

8447. **Calcite Crystals,** on Basalt, Australia. J. Z. Davis.

8448. **Aragonite Crystals,** on Basalt, Australia. J. Z. Davis.

8449. **Aragonite and Calcite Crystals,** on Basalt, Australia. J. Z. Davis.

8450. **Agate Pebbles,** North Coast of Australia. J. Z. Davis.

8451. **Rose Quartz,** Lake Superior. J. Z. Davis.

8452. **Gold and Silver Ore,** very rich, Gould and Curry Mine, Virginia City, Nevada. J. M. Buffington.
Said to assay $12,000 per ton.

8453. **Calcite Crystals on Quartz and Feldspar,** Yellowstone Park, Wyoming. C. L. Gruebele.

8454. **Silver Ore,** Hualgayoc, Peru. F. E. Monteverde.

8455. **Silver Ore,** Quiruvilca, Peru. F. E. Monteverde.

8456. **Coal** (Anthracite) Quiruvilca, Peru, F. E. Monteverde.

8457. **Feldspar,** Delaware County, Pennsylvania. F. E. Monteverde.

8458. **Fire Clay,** Mount Savage, Maryland. Dr. G. S. Dean.

8459. **Limestone Concretion,** hollow, with loose stones inside, which rattle when shaken, Wyoming.

8460. **Sandstone,** imported to San Francisco from Utica, Illinois. W. J. Houston.

8461. **Piece of Asphaltum Pavement,** used in New Orleans, a California patent.

8462. **Quartz** (variety of Hone Stone from Arkansas). J. Z. Davis.

8463. **Coal** (Bituminous), "Brush Mountain Coal," Vicars-Witch, Montgomery County, Virginia. Dr. R. E. Moor.

8464. **Coal** (Bituminous), Montevallo, Alabama. R. Dane.

8465. **Gold Quartz,** Talladega, Alabama. R. Dane.

8466. **Auriferous Vein Matter,** Lindsay Mine, Guilford County, North Carolina. S. Heydenfeldt, Jr.

8467. **Auriferous Vein Matter,** Hoover Hill Mine, Randolph County, North Carolina. Wm. Frecheville.

8468. **Rock Specimen,** Country Rock, near the vein of the Hoover Hill Mine, Randolph County, North Carolina. Wm. Frecheville.

8469. **Silver Ore** (Argentiferous Galena), San Juan, Mexico. R. Dane.

8470. **Iron Ore,** Limonite, Alabama. R. Dane.

8471. **Iron Ore,** Hematite, Alabama. R. Dane.

8472. **Iron Ore,** Magnetite, Little York, Pennsylvania. N. C. Congdon.
This ore is used for making steel.

8473. **Diatomaceous Earth,** Stoneham, Massachusetts. T. F. Robertson.

8474. **Aquacreptite,** Westchester, Pennsylvania. J. Z. Davis.

8475. **Glauconite** (Greensand Marl), Squankum, New Jersey.

8476. **Rock Specimen** (Serpentine), containing Chromic Iron, Fresno County, California.

8477. **Emery,** with wall rock of Slate, containing a large proportion of Magnetite in crystals, from a ledge near Brandy City, Sierra County, California. L. E. Williams.

8478. **Nodule** of indurated Clay, with Iron Pyrites, C[illegible]ay County, North Carolina.

8479. **Chalk**, Yankton, Dakota.

8480. **Rock Specimen** (Schistose Quartz) Valley Town, Cherokee County, North Carolina.

8481. **Cobalt and Nickel Ore**, Emperor Mine, Churchill, Nevada. Geo. Lovelock.

8482. **Tin Ore**, Etta Mine, Black Hills, Dakota. S. F. Mollitor.

8483. **Tin Ore** (Cassiterite), Black Hills, Dakota. S. F. Mollitor.

8484. **Tin**, smelted from ore from Black Hills, Dakota. S. F. Mollitor.

8485. **Seybertite** (variety Clintonite), New York. O. Hayden.

8486. **Chrysolite** (Dunnite), Sierra Blanca, Texas. J. R. Scupham.

8487. **Marble**, dove-colored, Rutland, Vermont. J. Z. Davis.

8488. **Marble**, gray, Rutland, Vermont. J. Z. Davis.

8489. **Marble**, red, Lake Champlain, New York. J. Z. Davis.

8490. **Granite**, pink, Quincy, Massachusetts. J. Z. Davis.

8491. **Granite**, Hallowell, Maine. J. Z. Davis.

8492. **Granite**, Rockport, Massachusetts. J. Z. Davis.

8493. **Building Stone**, Birmingham, Alabama. R. Dane.

8494. **Building Stone**, Colbert County, Alabama. R. Dane.

8495. **Building Stone**, Bowling Green, Kentucky. R. Dane.

8496. **Certificate of Stock,** No. 79, of the Yuba River Gold Dredging Company, the first incorporated gold mining company in California; issued November 1, 1850, to A. B. Paul, Secretary of the company. Almarin B. Paul.

8497. **View of Sutter's Mill,** on the American River, near Coloma, El Dorado County, California, as it appeared in 1851; with models of the nugget picked up by Marshall and Wimmer, January 19, 1848.

8498. **Diagrams,** illustrating the effects of obstructions in gun barrels. Wm. McKendree Heath.

8499. **Diagrams,** illustrating the effects of obstructions in gun barrels. Wm. McKendree Heath.

8500. **Iron Ore** (Limonite), one hundred and eighty miles south of Sydney, New South Wales, Australia. J. J. Ives.

8501. **Comb,** New Caledonia. J. Z. Davis.

8502. **Hand Weapon** of shark's teeth, Gilbert Islands. J. Z. Davis.

8503. **Sword** of shark's teeth, Gilbert Islands. J. Z. Davis.

8504. **Globular Pyrites,** Blizzard River, near Cape Beaufort, Arctic shore of Alaska. Jno. W. Kelly.

8505. **Gold Quartz,** showing free gold; with Petzite (Telluride of Gold and Silver), Garrett Claim, Bald Mountain, Tuolumne County, California. Frederick Hellman.

8506. **Gold Quartz,** Hartford Mine, Fred. Greaves Mining District, Calaveras County, California. A. Meyer.

8507. **Fibrolite** (a Silicate of Alumina) on quartz.

8508. **Quartz** with Chalcedony.

8509. **Silver Ore,** containing Native and Ruby Silver, Granite Mountain Mine, Phillipsburg, Deer Lodge County, Montana. J. Eustace Ryan.

8510. **Photograph** of seven varieties of Pikes and Lances used by the Confederate Armies during the Civil War. Wm. McKendree Heath.

8511. **Silver Ore,** with Native Silver, Bullion Mine, Wood River District, Idaho. Wm. Irelan, Jr.

8512. **Globular Pyrite,** Alaska. John Richards.

8513. **Göthite** (hydrous sesquioxide of iron) on Limonite. Longfellow Copper Mine, Apache County, Arizona. Jno. Collins.

8514. **Iron Pyrite Crystals.** California.

8515. **Pyrites of Iron,** found in cleaning up the sluices at the Spring Valley Hydraulic Mine, Cherokee Flat, Butte County, California. Louis Glass.

8516. **Arseniate of Nickel,** Cottonwood Cañon, Churchill County, Nevada.

8517. **Millerite** (sulphide of nickel), Lovelocks, Humboldt County, Nevada. Mrs. George Lovelock.

8518. **Wulfenite** (molybdate of lead), Picket Post, Pinal County, Arizona.

8519. **Gypsum** (sulphate of lime), Eastern States. J. Z. Davis.

8520. **Cinnabar** (sulphide of mercury), Redington Mine, Lake County, California.

8521. **Wall Rock,** Hanging Wall (and Horse in ledge), Zeile Mine, Amador County, California. W. F. Detert.

8522. **Auriferous Vein Matter,** and ledge slate, Zeile Mine, Amador County, California. W. F. Detert.

8523. **Auriferous Vein Matter,** Zeile Mine, Amador County, California. W. F. Detert.

8524. **Rock Specimen,** Horse in ledge, Zeile Mine, Amador County, California. W. F. Detert.

8525. **Rock Specimen,** Quartz boulder on foot wall, Zeile Mine, Amador County, California. W. F. Detert.

8526. **Gouge**, of decomposed Talc on foot wall, Zeile Mine, Amador County, California. W. F. Detert.

8527. **Dolomite** (magnesian limestone), on Cinnabar, Guadalupe Mine, Santa Clara County, California. S. Heydenfeldt, Jr.

8528. **Halite** (chloride of sodium, common salt), Inyo County, California. S. Heydenfeldt, Jr.

8529. **Anglesite** (sulphate of lead) on Galena, Cerro Gordo, Inyo County, California. S. Heydenfeldt, Jr.

8530. **Argentite** (sulphide of silver), Mono Mine, Utah. S. Heydenfeldt, Jr.

8531. **Fossils.** Upper Carboniferous. Lake Valley, Donna Ana County, New Mexico. S. Heydenfeldt, Jr.

8532. **Argentite** (sulphide of silver), De Soto Mine, Star City, Nevada. S. Heydenfeldt, Jr.

8533. **Silver Ore,** Plomosa Mine, Chiquemula District, Guatemala. S. Heydenfeldt, Jr.

8534. **Silver Ore,** Plomosa Mine, Chiquemula District, Guatemala. S. Heydenfeldt, Jr.

8535. **Silver Ore,** Plomosa Mine, Chiquemula District, Guatemala. S. Heydenfeldt, Jr.

8536. **Crystallized Cinnabar and Sulphur.**

8537. **Sphalerite** (sulphide of zinc, zinc blende), crystallized, Joplin, Jasper County, Missouri. J. Z. Davis.

8538. **Galenite** (sulphide of lead), crystals, Joplin, Jasper County, Missouri. J. Z. Davis.

8539. **Calamine** (silicate of zinc), Joplin, Jasper County, Missouri. J. Z. Davis.

8540. **Sphalerite** (sulphide of zinc), coated with Galena, Joplin, Jasper County, Missouri. J. Z. Davis.

8541. **Sphalerite** (sulphide of zinc), and **Galenite,** with Sulphur, in crystals, Joplin, Jasper County, Missouri. J. Z. Davis.

8542. **Sphalerite** (sulphide of zinc), in crystals, Joplin, Jasper County, Missouri. J. Z. Davis.

8543. **Galenite** (sulphide of lead), crystals on fossil shells, Joplin, Jasper County, Missouri. J. Z. Davis.

8544. **Galenite** (sulphide of lead), crystals, Joplin, Jasper County, Missouri. J. Z. Davis.

8545. **Silver Ore**, Young America Mine, Colville, Washington Territory. Morris Cohen.

8546. **Silver Ore**, Summit Mine, Colville, Washington Territory. Morris Cohen.

8547. **Silver Ore**, Iridescent Mine, Colville, Washington Territory. Morris Cohen.

8548. **Silver Ore**, Summit Mine, Colville, Washington Territory. Morris Cohen.

8549. **Silver Ore**, Ella Mine, Colville, Washington Territory. Morris Cohen.

8550. **Silver Ore**, Rambler Mine, Colville Valley, Washington Territory. Morris Cohen.

8551. **Silver Ore**, Black Witch Mine, Colville, Washington Territory. Morris Cohen.

8552. **Silver Ore**, Old Dominion Mine, Colville, Washington Territory. Morris Cohen.

8553. **Silver Ore**, Sullivan and Bunker Hill Mines, Cœur d'Alene District, Idaho. Morris Cohen.

8554. **Silver Ore**, Hunter Mine, Cœur d'Alene District, Idaho. Morris Cohen.

8555. **Silver Ore**, Ornoga Mine, Cœur d'Alene District, Idaho. Morris Cohen.

8556. **Silver Ore**, Blue Bell Mine, Kootenai Lake District, Idaho. Morris Cohen.

8557. **Göthite** (hydrous sesquioxide of iron), Lostwithiel, Cornwall, England.

8558. **Dufrenite** (hydrous phosphate of iron), Bottallack, Cornwall, England.

8559. **Liebethenite** (phosphate of copper), Redruth, Cornwall, England.

8560. **Bournonite** (triple sulphuret of lead, antimony, and copper), Endellion, Cornwall, England.

8561. **Anglesite** (sulphate of lead), Cerro Gordo, Inyo County, California.

8562. **Native Silver, with Proustite** (arsenical sulphide of silver), Silver King Mine, Pinal County, Arizona. James M. Barney.

8563. **Portion of outer shell or crust of a Priceite boulder,** to show the mode of its occurrence, Lone Ranch, Chetco, Curry County, Oregon. John Cresswell.

8564. **Chrysocolla** (silicate of copper), pseudomorph, after Cerussite, Aries Mine, Cerro Gordo, Inyo County, California.

8565. **Platinum,** Native.

8566. **Clay** deposit from Paso Diablo Springs, Inyo County, California. D. S. Woodhull.

8567. **Clay,** colored by iron, twelve miles from Santa Rosa, Sonoma County, California. A. W. Dana.

8568. **Iron Ore,** Hematite, near Ingram's Station, Northern Pacific Railroad, Sonoma County, California. F. W. Van Reynegom.

8569. **Stromeyrite** (sulphide of silver and copper), Cerro Gordo, Inyo County, California.

8570. **Silver Ore** (argentiferous galena), Chico Mine, South Fork District, Shasta County, California. W. P. Litten.

8571. **Manganese Ore,** Pyrolusite with Wad (earthy binoxide of manganese), Nineteenth Street, between Noe and Castro, San Francisco, California. Edward A. T. Gallagher.

8572. **Silver Ore**, Baldwin Mine, Santa Fe District, Esmeralda County, Nevada. J. R. Scupham.

8573. **Silver Ore**, with Cerussite and Wulfenite, Baldwin Mine, Santa Fe District, Esmeralda County, Nevada. J. R. Scupham.

8574. **Silver Ore** (argentiferous carbonate of lead), Baldwin Mine, Santa Fe District, Esmeralda County, Nevada. J. R. Scupham.

8575. **Silver Ore**, with copper, lead, and iron. Baldwin Mine, Santa Fe District, Esmeralda County, Nevada. J. R. Scupham.

8576. **Silver Ore**, known as "hard ore," Baldwin Mine, Santa Fe District, Esmeralda County, Nevada. J. R. Scupham.

8577. **Silver Ore**, Cotbridge Mine, Santa Fe District, Esmeralda County, Nevada. J. R. Scupham.

8578. **Silver Ore**, with copper, Cotbridge Mine, Santa Fe District, Esmeralda County, Nevada. J. R. Scupham.

8579. **Silver Ore**, with copper, Storm King Mine, Santa Fe District, Esmeralda County, Nevada. J. R. Scupham.

8580. **Silver Ore**, Comstock Mine, Santa Fe District, Esmeralda County, Nevada. J. R. Scupham.

8581. **Copper Ore**, Belleville Mine, Santa Fe District, Esmeralda County, Nevada. J. R. Scupham.

8582. **Copper Ore**, Wason Mine, Santa Fe District, Esmeralda County, Nevada. J. R. Scupham.

8583. **Copper Oxide**, pseudomorph after Chalcopyrite, with Calcite crystals, Lord Byron Mine, Eureka, Nevada. J. Z. Davis.

8584. **Antimonous Oxide**, Cerro Gordo, Inyo County, California.

8585. **Mimetite** (arsenate of lead), with Antimonous Oxide, Cerro Gordo, Inyo County, California.

8586. **Pyrolusite** (anhydrous binoxide of manganese), Mattern Mine, Quebec, Canada.

8587. **Calamine** (silicate of zinc), **Smithsonite** (carbonate of zinc), and **Willemite** (silicate of zinc), Ygnacio Mine, Cerro Gordo, Inyo County, California.

8588. **Silver Ore,** San Lucas Mine, Cerro Gordo, Inyo County, California.

8589. **Chrysocolla** (silicate of copper), Ygnacio Mine, Cerro Gordo, Inyo County, California.

8590. **Silver Ore,** Aries Mine, Cerro Gordo, Inyo County, California.

8591. **Chrysocolla** (silicate of copper), on Quartz, Cerro Gordo, Inyo County, California.

8592. **Anglesite** (sulphate of lead), on Cerussite (carbonate of lead), Cerro Gordo, Inyo County, California.

8593. **Chrysocolla** (silicate of copper) and Cryptovallite, Cerro Gordo, Inyo County, California.

8594. **Chrysocolla** (silicate of copper), Cerro Gordo, Inyo County, California.

8595. **Linarite** (cupreous sulphate of lead), Ygnacio Mine, Cerro Gordo, Inyo County, California.

8596. **Linarite** (cupreous sulphate of lead) and Anglesite (sulphate of lead), Ygnacio Mine, Cerro Gordo, Inyo County, California.

8597. **Linarite, Caledonite** (cupreous sulphato-carbonate of lead), and **Anglesite,** Ygnacio Mine, Cerro Gordo, Inyo County, California.

8598. **Linarite, Caledonite** (cupreous sulphato-carbonate of lead), and **Anglesite** on Galenite, Ygnacio Mine, Cerro Gordo, Inyo County, California.

8599. **Linarite** (cupreous sulphate of lead) and **Caledonite,** Ygnacio Mine, Cerro Gordo, Inyo County, California.

8600. **Caledonite** (cupreous sulphato-carbonate of lead), **Anglesite,** and **Galenite,** Ygnacio Mine, Cerro Gordo, Inyo County, California.

8601. **Hessite** (telluride of silver), Schearer & Rattler Mine, Shasta County, California.

8602. **Lignite,** showing Iron Pyrites, Columbia, Tuolumne County, California. Louis Blanding.

8603. **Manganese Ore,** Pyrolusite, near Guerneville, Sonoma County, California. G. Watson.

8604. **Clay,** colored by carbonaceous matter, Rutherford, Napa County, California. R. E. Wood.

8605. **Coal,** Semi-Anthracite, South Wales, England. J. Z. Davis.

8606. **Granite,** Soulsby Mine, Tuolumne County, California. Frederick Hellmann.

8607. **Auriferous Vein Matter,** with Pyrites and Zinc Blende, Pine Nut Mine, Tuolumne County, California. Louis Blanding.

8608. **Wall Rock,** hanging wall, San Guiseppe Mine, Tuolumne County, California. Frederick Hellmann.

8609. **Gold Quartz,** San Guiseppe Mine, Tuolumne County, California. Frederick Hellmann.

8610. **Gold Quartz** (roasted), San Guiseppe Mine, Tuolumne County, California. Frederick Hellmann.

8611. **Gold Quartz,** Seminole Mine, Tuolumne County, California. Louis Blanding.

8612. **Gold Quartz,** Dickson Mine, Tuolumne County, California. Louis Blanding.

8613. **Gold Quartz,** Mammoth Mine, Tuolumne County, California. Frederick Hellmann.

8614. **Gold Quartz,** with free gold, Our Flag Mine, Tuolumne County, California. Frederick Hellmann.

8615. **Wall Rock,** with sulphurets, Our Flag Mine, Tuolumne County, California. Frederick Hellmann.

8616. **Gold Quartz,** Garrett Mine, Tuolumne County, California. Frederick Hellmann.

8617. **Vein Matter,** in contact with hanging wall, Garrett Mine, Tuolumne County, California. Frederick Hellmann.

8618. **Wall Rock,** hanging wall, Garrett Mine, Tuolumne County, California. Frederick Hellmann.

8619. **Gold Quartz,** Newbaumer Mine, Tuolumne County, California. Louis Blanding.

8620. **Auriferous Vein Matter,** Hyde Mine, Tuolumne County, California. Frederick Hellmann.

8621. **Auriferous Vein Matter,** Keltz Mine, Tuolumne County, California. Frederick Hellmann.

8622. **Vein Matter,** Rising Sun Mine, Tuolumne County, California. Frederick Hellmann.

8623. **Rock Specimen,** found at a depth of ten feet in the soil overlying the ledge, Experimental Mine, Tuolumne County, California. Louis Blanding.

8624. **Medal** struck to commemorate the completion of the Northern Pacific Railroad.

8625. **Coins,** Chinese (6).

8626. **Coins,** United States (3).

8627. **Coins,** Mexican (4).

8628. **Coins,** Hong Kong (2).

8629. **Coin,** Canadian Halfpenny, 1842. Joseph P. Jackson.

8630. **Coins,** Japanese (7).

8631. **Coin,** Honduras (copper).

8632. **Coins,** Ancient Roman (2). Dr. Thomas Porter.
A large number of these were found in a jar plowed up in Wales.

8633. **Apatite,** crystallized (variety asparagus stone), Cerro del Mercado, Durango, Mexico. F. E. Monteverde.

8634. **Continental Currency,** 1776; value, seven dollars. Frederick C. Keil.

8635. **Confederate States Currency;** value, five hundred dollars. W. C. Knox.

8636. **Lead Ore** (anglesite), Union Mine, Cerro Gordo, Inyo County, California.

8637. **Silver Ore** (argentiferous galena), Ygnacio Mine, Cerro Gordo, Inyo County, California.

8638. **Silver Ore** (argentiferous anglesite), Ygnacio Mine, Cerro Gordo, Inyo County, California.

8639. **Silver Ore** (argentiferous anglesite and galena), Ygnacio Mine, Cerro Gordo, Inyo County, California.

8640. **Silver Ore,** showing Native Silver, Ygnacio Mine, Cerro Gordo, Inyo County, California.

8641. **Silver Ore** (argentiferous galena), Ygnacio Mine, Cerro Gordo, Inyo County, California.

8642. **Copper Ore** (chrysocolla), Ygnacio Mine, Cerro Gordo, Inyo County, California.

8643. **Chrysocolla** (silicate of copper), Ygnacio Mine, Cerro Gordo, Inyo County, California.

8644. **Silver Ore** (large specimen), Quijotoa District, Arizona. W. S. Lyle.

8645. **Silver Ore,** very rich, with iron pyrites in a talcose gangue, Thompson and Chapman Mine, Kingston, New Mexico. M. Thompson.

8646. **Gypsum** (sulphate of lime), Visalia, Tulare County, California. Mrs. Jennie Tyson.

8647. **Fossil**, Sespe Petroleum District, Ventura County, California. J. B. Treadwell.

8648. **Rock Specimen**, Tourmaline Slate, Reed Ranch, Marin County, California.

8649. **Salt**, Salt Lake, Utah. J. Z. Davis.

8650. **Auriferous Vein Matter**, El Dorado Mine, South Fork District, five miles from Igo, Shasta County, California. W. P. Litten.

8651. **Silver Ore**, Continental Mine, South Fork District, Shasta County, California. W. P. Litten.

8652. **Calcite** (carbonate of lime), Ygnacio Mine, Cerro Gordo, Inyo County, California.

8653. **Gold Quartz**, from the mine of the Alaska Mill and Mining Co., Douglas Island, Alaska. W. S. Corbett.

8654. **Gold Quartz**, showing free gold, Alaska Chief Mine, on the main land near Juneau, Alaska. W. S. Corbett.

8655. **Silver Ore**, Berner's Bay, Alaska. W. S. Corbett.

8656. **Mica**, variety known as "Picture Mica," Westchester, Pennsylvania.

8657. **Garnet** on Quartz, Amador County, California. D. W. Collins.

8658. **Gypsum** (sulphate of lime), near Santa Rosa, Sonoma County, California. A. W. Dana.

8659. **Semi-opal**, near Santa Rosa, Sonoma County, California. A. W. Dana.

8660. **Lignite** on Petrified Wood, Sonoma County, California. A. W. Dana.

8661. **Agate Nodules**, Modoc County, California. Mrs. A. E. Bush.

8662. **Pyroxene** (silicate of iron, calcium, and magnesia), near San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

8663. **Ware** (four pieces). J. Z. Davis.
Said to be made from the slag produced in smelting gold and silver ore at Argo, Colorado.

8664. **Feldspar** (orthoclase), (silicate of alumina and potash).

8665. **Calcite** (carbonate of lime) and dolomitic calcite, with crystals of pyrite and zinc-blende.

8666. **Wall Rock**, Hanging Wall of ledge, showing free gold, Altaville Mining and Milling Company's ledge, Calaveras County, California. J. Z. Davis.

8667. **Gold Quartz**, with free gold, Altaville Mining and Milling Company's ledge, Calaveras County, California. J. Z. Davis.

8668. **Wall Rock**, Foot Wall, showing free gold, Altaville Mining and Milling Company's ledge, Calaveras County, California. J. Z. Davis.

8669. **Ornaments** (thirteen specimens), carved from bone and ivory by the Esquimaux. J. Z. Davis.

8670. **Tin Ore**, near Custer City, Dakota.

8671. **Tin Ore**, near Custer City, Dakota.

8672. **Manganese Ore** (pyrolusite), Saucelito, Marin County, California. R. H. Sinton.

8673. **Sandstone**, San José, Santa Clara County, California. Wm. Irelan, Jr.
Extensively used as a building stone.

8674. **Aragonite** (carbonate of lime), Mineral Park, Hualapai District, Arizona. Wm. Irelan, Jr.

8675. **Iron Ore** (hematite), suitable for paint, near Santa Rosa, Sonoma County, California. A. W. Dana.

8676. **Impressions of leaves in ferruginous Clay**; six specimens near Santa Rosa, Sonoma County, California. A. W. Dana.

8677. **Fossil Shells** (pinna), Tertiary, near Santa Rosa, Sonoma County, California. A. W. Dana.

8678. **Fossil Shells,** Tertiary, near Santa Rosa, Sonoma County, California. A. W. Dana.

8679. **Quartz Crystals,** inclosing Hematite, Herkimer County, New York. J. Z. Davis.

8680. **Matrix of Diamond,** Kimberley, South Africa. W. L. Millard.

8681. **Dendrites,** Balaklava Hill, near Vallecito, Calaveras County, California. Mrs. M. Cohen.

8682. **Talc,** Nevada County, California. Mrs. A. E. Bush.

8683. **Smithsonite** (carbonate of zinc), on Pyrolusite, Illinois. Mrs. A. E. Bush.

A zinc ore, called by the miners "Dry Bone."

8684. **Obsidian,** Modoc County, California. Mrs. A. E. Bush.

8685. **Conglomerate,** from the "Drift," Illinois. Mrs. A. E. Bush.

8686. **Selenite** (sulphate of lime), Bluffs at San Pedro, Los Angeles County, California. Mrs. A. E. Bush.

8687. **Limestone** (dolomitic), San Benito County, California. Mrs. A. E. Bush.

Said to be used in the manufacture of baking powder, probably for the generation of carbonic acid gas.

8688. **Epidote and Bitumen,** on Feldspar (orthoclase), White Point, Los Angeles County, California. Mrs. A. E. Bush.

8689. **Quartz Geodes** (two specimens), Illinois. Mrs. A. E. Bush.

8690. **Gold Quartz,** Calaveras Mine, Calaveras County, California. Mrs. M. Cohen.

8691. **Gold Quartz,** from the 400-foot level of the Texas Flat Mine, Coarse Gold Gulch, Fresno County, California. John Wilson.

8692. **Silica,** with a small proportion of Alumina, Calaveras County, California. S. W. Bugbee.

8693. **Silica,** with a small proportion of Alumina, ten miles north of Stockton, San Joaquin County, California.

8694. **Magnesite** (carbonate of magnesia), impure; contains Calcite and Silica: Livermore Valley, Alameda County, California. W. Fowler.

8695. **Clay,** Mark West, Sonoma County, California. William Brown.

It is thought to be suitable for fire-brick.

8696. **Iron Ore** (hematite), near Guerneville, Sonoma County, California. G. Watson.

8697. **Auriferous Vein Matter,** near Murphy's, Calaveras County, California. Mrs. M. Cohen.

8698. **Gold Quartz,** 300-foot level of the Alaska Mine, Sierra County, California. A. Judson.

8699. **Gold Quartz,** 500-foot level of the Alaska Mine, Sierra County, California. A. Judson.

8700. **Obsidian,** with Sphærulite, Mt. Paul, Vatna Jökull, Iceland. W. L. Watts.

8701. **Pitchstone** (krablite), Vatna Jökull, Iceland. W. L. Watts.

8702. **Lava,** with Sanidine and Olivine, Logsberg (Hill of Laws), Thingvallir, Iceland. W. L. Watts.

8703. **Lava** (scoriaceous), western crater of Mt. Hecla, Iceland. W. L. Watts.

8704. **Lava** (ropy), side of western crater of Mt. Hecla, Iceland. W. L. Watts.

8705. **Lava** (basaltic), containing Olivine and Magnetite, Iceland. W. L. Watts.

Taken from a lava flow 50 miles long, and 500 feet deep, and in places 15 miles wide, which flowed from the Skaptar Jökull down the valley of the Eldvatn (Fire-water) River.

8706. **Tufa** (palagonitic), Iceland. W. L. Watts.

Taken from the hills of the Myrdals Jökull, south of Kötlugia. This tufa is the foundation of Iceland.

8707. **Lava** (doleritic), from the lava desert of Odathabraun, Iceland. W. L. Watts.

8708. **Krablite** (pitchstone), with sphærulite, Mt. Paul, Vatna Jökull, Iceland. W. L. Watts.

8709. **Lava,** Mt. Hecla, Iceland. W. L. Watts.
Taken from a lava stream seven miles from the mountain.

8710. **Fiorite** (silicious sinter), from the basin of the great Geyser, Iceland. W. L. Watts.

8711. **Silicious Sinter,** from a solfatara at Cape Reykjanes, South Iceland. W. L. Watts.

8712. **Diatomaceous Earth,** farm of A. Burnham, Strawberry School District, Sonoma County, California. W. L. Watts.

8713. **Silver Ore,** Polaris Mine, Cœur D'Alene, Idaho. Phil. A. Markson.

8714. **Silver Ore,** Little Giant Mine, Nigger Prairie, Cœur D'Alene, Idaho. Phil. A. Markson.

8715. **Antimony Ore** (stibnite), Carlton Mine, Cœur D'Alene, Idaho. P. A. Markson.

8716. **Antimony Ore** (stibnite), with Pyrite, Shoshone County, Idaho. P. A. Markson.

8717. **Silver Ore,** with Copper, Old Dominion Mine, Colville District, Washington Territory. P. A. Markson.

8718. **Argentite,** Arizona. P. A. Markson.

8719. **Silver Ore** (very rich), Calico District, San Bernardino County, California. P. A. Markson.

8720. **Silver Ore** (argentiferous galena), Salmon River, Idaho. P. A. Markson.

8721. **Silver Ore** (with copper), Sweethouse District, Montana. P. A. Markson.

8722. **Silver Ore,** Moulton Mine, Butte, Montana. P. A. Markson.

8723. **Silver Matte,** Colusa Silver and Copper Smelting Company, Butte, Montana. P. A. Markson.

8724. **Copper Matte,** Colusa Silver and Copper Smelting Company, Butte, Montana. P. A. Markson.

8725. **Water-worn Boulder,** near Sonora, Tuolumne County, California. J. Z. Davis.

8726. **Lava** (carved), Mt. Ætna, Sicily. J. Z. Davis.
From the eruption of 1852.

8727. **Chrysotile,** with calcite, near Independence, Inyo County, California. D. S. Woodhull.

8728. **Shell Cameo,** head of Christ. J. Z. Davis.
Cut in Italy.

8729. **Shell Cameo,** head of the Virgin Mary. J. Z. Davis.
Cut in Italy.

8730. **Shell Cameo,** representing the infant Christ astonishing his teacher, Zacchæus. J. Z. Davis.
Cut in Italy.

8731. **Fossil Oyster** (ostrea edulis), beach at Monterey, Monterey County, California. T. J. Rourke.

8732. **Tin Ore,** in matrix of Mica, Quartz, and Feldspar, Dakota.

8733. **Clay,** San Miguel, San Luis Obispo County, California. T. P. Clark.

8734. **Garnet** (green), Ouvarovite, Orford, Canada. J. Z. Davis.

8735. **Sphalerite** (zinc-blende), with cockscomb Pyrites. Joplin, Jasper County, Missouri. J. Z. Davis.

8736. **Pyrites** (sulphide of iron), coxcomb variety on Sphalerite, Joplin, Jasper County, Missouri. J. Z. Davis.

8737. **Pyrites** (sulphide of iron), coxcomb variety, with Galena, Joplin, Jasper County, Missouri. J. Z. Davis.

8738. **Tachydrite** (hydrous chloride of calcium and magnesium), Stassfurt, Germany. Jno. Bryant.

8739. **Sylvite** (chloride of potassium), Stassfurt, Germany. John Bryant.

8740. **Polyhalite** (hydrous sulphate of calcium, magnesium, and potassium), Stassfurt, Germany. John Bryant.

8741. **Boracite** (borate of magnesium), Stassfurt, Germany. John Bryant.

8742. **Picromerite** (hydrous sulphate of magnesium and potassium), Stassfurt, Germany. John Bryant.

8743. **Anhydrite** (sulphate of calcium), Stassfurt, Germany. John Bryant.

8744. **Kieserite** (hydrous sulphate of magnesium), Stassfurt, Germany. John Bryant.

8745. **Carnallite** (hydrous chloride of magnesium and potassium), Stassfurt, Germany. John Bryant.

8746. **Halite** (chloride of sodium), Stassfurt, Germany. John Bryant.

8747. **Chiastolite,** near Chowchilla Crossing, on the old Fort Miller Road, Fresno County, California. Mrs. A. E. Bush.

8748. **Silver Ore,** Belle Mine, Butte City, Montana. Mrs. A. E. Bush.

8749. **Pecten Cerrosensis,** Fossil shell, White Point, Los Angeles County, California. Mrs. A. E. Bush.

8750. **Gold Quartz,** Warren Claim, Clear Creek, Butte County, California. Mrs. S. A. Warren.

8751. **Silver Ore** (rich), from the 1400-foot level of the California Mine, Comstock Lode, Nevada. W. H. Patton.

Discovered in the latter part of 1886, lying east of the old ore body known as the "Big Bonanza."

8752. **Case with fifty specimens of Precious Stones.**

8753. **Tin Ore,** headwaters of Irish Creek, eight miles from Vesuvius Depot, Rockbridge County, Virginia. S. Heydenfeldt, Jr.

8754. **Amianthus,** Tepantitlan District, State of Guererro, Mexico. J. A. Verger.

8755. **Manganese Ore** (pyrolusite), Volcano, Amador County, California.

8756. **Gypsum** (sulphate of lime). J. Z. Davis.

8757. **Iron Ore** (hematite), Mark West Coal Mine, Sonoma County, California. J. L. Jordan.

8758. **Manganese Ore** (pyrolusite), near the town of St. Helena, Napa County, California. John Graham.

8759. **Silicified Wood,** Castle Dome, Arizona. J. Z. Davis.

Thought to have been Mesquite wood.

8760. **Copper Ore,** Arnold Mine, Arizona. J. Z. Davis.

8761. **Manganese Ore** (pyrolusite, with rhodlonite), Mark West Coal Mine, seven miles from Santa Rosa, Sonoma County, California. J. L. Jordan.

8762. **Iron Ore** (limonite), Mark West, Sonoma County, California. W. L. Watts.

8763. **Petrifaction,** found near Santa Rosa, Sonoma County, California. W. L. Watts.

8764. **Silver Ore,** Providence Mine, Sec. 17, T. 3 N., R. 11 E., M. D. M., on Bear Creek, Calaveras County, California. E. J. Rogers.

8765. **Silver Ore,** Ward Mine, Sec. 20, T. 3 N., R. 11 E., M. D. M., on Bear Creek, Calaveras County, California. E. J. Rogers.

8766. **Copper Ore,** Smile of Fortune Mine, Empire Flat, Arizona. J. Z. Davis.

8767. **Silver Ore,** Teckatticup Mine, El Dorado District, Mojave County, Arizona. J. Z. Davis.

8768. **Silver Ore,** Silver District, Arizona. J. Z. Davis.

8769. **Platin-Iridium,** Siskiyou Mining Company's Mine, Happy Camp, Del Norte County, California. H. A. Bowen.

8770. (A) **Clay Rocks**, overlying Coal Measures, upper level, Mark West Coal Mine, Sonoma County, California. W. L. Watts.

8771. (B) **Shale**, varying in thickness from three to six feet, upper level, Mark West Coal Mine, Sonoma County, California. W. L. Watts.

8772. (C) **Blue Clay**, ten inches thick, upper level, Mark West Coal Mine, Sonoma County, California. W. L. Watts.

8773. (D) **Lignite**, ten inches thick, upper level, Mark West Coal Mine, Sonoma County, California. W. L. Watts.

8774. (E) **Tufa**, four inches thick; **Lignite**, sixteen inches thick, upper level, Mark West Coal Mine, Sonoma County, California. W. L. Watts.

8775. (F) **Footwall** of upper level, Mark West Coal Mine, Sonoma County, California. W. L. Watts.

8776. (G) **Top Rock** of lower level, about thirty-five feet thick, Mark West Coal Mine, Sonoma County, California. W. L. Watts.

8777. (H) **Blue Clay and Shells**, about one hundred feet thick, lower level, Mark West Coal Mine, Sonoma County, California. W. L. Watts.

8778. (I) **Sandstone**, intercalated with the blue clay (H), lower level, Mark West Coal Mine, Sonoma County, California. W. L. Watts.

8779. (J) **Lignite**, three and one half feet thick, lower level, Mark West Coal Mine, Sonoma County, California. W. L. Watts.

8780. (K) **Shale**, footwall of coal bed, over sixty feet thick, lower level, Mark West Coal Mine, Sonoma County, California. W. L. Watts.

8781. (L) **Quartzose Conglomerate**, capping of coal measures at the Jordan Coal Mine, Taylor Mountain, Sonoma County, California. W. L. Watts.

8782. (M) **Sandstone**, Jordan Coal Mine, Taylor Mountain, Sonoma County, California. W. L. Watts.

8783. (N) **Shale,** one to five feet thick, Jordan Coal Mine, Taylor Mountain, Sonoma County, California. W. L. Watts.

8784. (O) **Lignite,** five feet thick, Jordan Coal Mine, Taylor Mountain, Sonoma County, California. W. L. Watts.

8785. (P) **Clay,** three to eighteen inches thick, Jordan Coal Mine, Taylor Mountain, Sonoma County, California. W. L. Watts.

8786. (Q) **Shale,** eight to eighteen inches thick, foot wall, Jordan Coal Mine, Taylor Mountain, Sonoma County, California. W. L. Watts.

8787. (R) **Sandstone** (carboniferous?), about twenty feet thick, croppings of coal measures, Sonoma Mountain, three miles east of Petaluma, Sonoma County, California. W. L. Watts.

8788. (S) **Lignite,** one and one half feet thick, Sonoma Mountain, three miles east of Petaluma, Sonoma County, California. W. L. Watts.

8789. (T) **Clay Shale,** three to six inches thick, foot wall of coal vein, Sonoma Mountain, three miles east of Petaluma, Sonoma County, California. W. L. Watts.

8790. (U) **Silicious Stratum,** underlying the Shale, a few inches thick, Sonoma Mountain, three miles east of Petaluma, Sonoma County, California. W. L. Watts.

8791. (V) **Lava,** underlying silicious stratum, about 1½ feet thick, Sonoma Mountain, Sonoma County, California. W. L. Watts.

8792. (W) **Shale,** underlying Lava, Sonoma County, California. W. L. Watts.

8793. (X) **Sandstone,** underlying coal measures, Sonoma Mountain, three miles east of Petaluma, Sonoma County, California. W. L. Watts.

8794. **Gold Quartz,** showing free gold, Hazel Dell Mine, Railroad Flat, Calaveras County, California. T. L. Flanagan.

8795. **Ripidolite** (hydrous silicate of aluminium and magnesium), and **Chondrodite** (silicate of magnesium), Brewster's, New York. J. Z. Davis.

8796. **Wake,** a sedimentary rock, composed of quartz and feldspar cemented together by iron in solution, and containing pisolitic concretions of Limonite (hydrous sesquioxide of iron), near Santa Rosa, Sonoma County, California. W. L. Watts.

8797. **Chromite,** Blacklock, Curry County, Oregon. J. Switzer.

Large quantities of this ore at this locality.

8798. **Cactus Wren,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8799. **Titlark,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8800. **Brown-backed Warbler,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8801. **Humming Bird,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8802. **Humming Bird,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8803. **Black-headed Gull,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8804. **Night Heron,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8805. **Eared Grebe,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8806. **Woodpecker,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8807. **Dove,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8808. **Curved-bill Thrush,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8809. **Ground Dove,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8810. **Flycatcher,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8811. **Dwarf Thrush,** Peru, Liceo de Valparaiso, Valparaiso, Chile.

8812. **Linnet,** Chile, Liceo de Valparaiso, Valparaiso, Chile.

8813. **Wren,** Chile, Liceo de Valparaiso, Valparaiso, Chile.

8814. **Finch,** Chile, Liceo de Valparaiso, Valparaiso, Chile.

8815. **Carpodanus,** Chile, Liceo de Valparaiso, Valparaiso, Chile.

8816. **Bank Swallow,** Chile, Liceo de Valparaiso, Valparaiso, Chile.

8817. **Crested Titmouse,** Chile, Liceo de Valparaiso, Valparaiso, Chile.

8818. **Duck,** Chile, Liceo de Valparaiso, Valparaiso, Chile.

8819. **Mud Hen,** Chile, Liceo de Valparaiso, Valparaiso, Chile.

8820. **Mud Hen** (young), Chile, Liceo de Valparaiso, Valparaiso, Chile.

8821. **Tufted Grebe,** Chile, Liceo de Valparaiso, Valparaiso, Chile.

8822. **Black Rail,** Chile, Liceo de Valparaiso, Valparaiso, Chile.

8823. **Solitary Sandpiper,** Chile, Liceo de Valparaiso, Valparaiso, Chile.

8824. **Sandpiper,** Chile, Liceo de Valparaiso, Valparaiso, Chile.

8825. **Cactus Wren,** Chile, Liceo de Valparaiso, Valparaiso, Chile.

8826. **Humming Bird,** of very rare species, Juan Fernandez Island, Chile, Liceo de Valparaiso, Valparaiso, Chile.

. **Humming Bird,** of very rare species, Juan Fernandez Island, Chile, Liceo de Valparaiso, Valparaiso, Chile.

. **White-backed Crow Shrike** (Magpie), gumorhina leuconota, Victoria, Australia. J. Z. Davis.

. **Satin Bower Bird,** ptilnorhyncus holosericeus, Gippsland, Victoria, Australia. J. Z. Davis.

. **Bell Bird,** Manorina melanophrys, Victoria, Australia. J. Z. Davis.

. **Bell Bird,** Manorina melanophrys, Victoria, Australia. J. Z. Davis.

. **Superb Warbler,** Malurus cyanosus, Victoria, Australia. J. Z. Davis.

. **Spine-bill Honey-eater,** Acanthorhyncus tenuirostris, Victoria, Australia. J. Z. Davis.

. **Garrulous Honey-eater,** Myzantha garrula, Victoria, Australia. J. Z. Davis.

. **Barraband's Parrakeet,** Polytelis barrabandi, Victoria, Australia. J. Z. Davis.

. **Yellow-breasted Robin,** Eopsaltria australis, Victoria, Australia. J. Z. Davis.

. **Musky Parrakeet,** Glossopsitta australis, Victoria, Australia. J. Z. Davis.

. **Musky Parrakeet,** Glossopsitta australis, Victoria, Australia. J. Z. Davis.

. **Little Lorrikeet,** Glossopsitta pusillus, Victoria, Australia. J. J. Davis.

. **Horseshoe Honey-eater,** Lichmera australasiana, Victoria, Australia. J. Z. Davis.

. **White-shouldered Campephaza,** Lalage humeralis, Victoria, Australia. J. Z. Davis.

. **New Holland Honey-eater,** Meliornis novæhollandiæ, Victoria, Australia. J. Z. Davis.

8843. **New Holland Honey-eater,** Meliornis novæ-hollandiæ, Victoria, Australia. J. Z. Davis.

8844. **White-throated Thickhead,** Pachycephala pectoralis, Victoria, Australia. J. Z. Davis.

8845. **Rosella Parrot,** Platycerus eximius, Goulbern Valley, Victoria, Australia. J. Z. Davis.

8846. **Rosella Parrot,** Platycerus eximius, Goulbern Valley, Victoria, Australia. J. Z. Davis.

8847. **Skulls** (two) of California aborigines, from an Indian mound near Sacramento City, California. J. Z. Davis.

8848. **Skulls** (two) and **Bones** of California aborigines, from the Calaveras Cave, Calaveras County, California. J. Z. Davis.

8849. **Skulls** (two) of Alaska Indians. J. Z. Davis.

8850. **Skull** of Australian aborigine of the Murray tribe, Victoria, Australia. J. Z. Davis.

8851. **Skull of Chimpanzee.** J. Z. Davis.

8852. **Jaws of large Shark,** Monterey Bay, Monterey County, California. J. Z. Davis.

8853. **Skull of large Alligator,** Florida. J. Z. Davis.

8854. **Inner lining** of the leaf of Astelia Sandwicense, the "Lily of Kilauea," Sandwich Islands. J. Z. Davis.

8855. **Longitudinal section of Palmetto, or Cabbage Palm,** Florida. J. Z. Davis.

8856. **Cross section of Logwood Tree,** showing the peculiar manner of growth, Sonora, Mexico. J. H. Holt.

8857. **Model of Five-stamp Battery for Quartz crushing.**

8858. **Old Flint-lock French Fowling Piece.** J. Z. Davis.

8859. **United States Cavalry Carbine of 1851,** used in Indian wars in California. J. Z. Davis.

8860. **Old English Duck Gun.** J. Z. Davis.

8861. **Fowling Piece,** formerly the property of Daniel Boone. J. Z. Davis.

8862. **Old Flint-lock Musket,** used at the battle of New Orleans. J. Z. Davis.

8863. **Old French Bayonet,** found on the battlefield of New Orleans. J. Z. Davis.

8864. **Old Flint-lock Musket,** carried by an amateur soldier at the battle of Gettysburg. J. Z. Davis.

8865. **Powder Horn,** used with the musket, No. 8864, at Gettysburg. J. Z. Davis.

8866. **Modern Telescopic Target Rifle.** J. Z. Davis.

8867. **Old Hessian Dragoon Pistol,** made at Potsdam, and used at the battle of Germantown, Pennsylvania, October 4, 1777. J. Z. Davis.

8868. **Ancient Japanese Matchlock,** bearing the coat of arms of the Togugawa family. J. Z. Davis.

8869. **Ancient Japanese Matchlock,** bearing the coat of arms of Prince Nabeshima, who died at the end of the eighteenth century. J. Z. Davis.

8870. **United States Cavalry Holster,** for Dragoon Pistol. J. Z. Davis.

8871. **Old English Flint-lock Horse Pistol.** J. Z. Davis.

8872. **Old-fashioned Gallery Pistol.** J. Z. Davis.

8873. **Lafourchaux 7-Millimeter Pepperbox Revolver,** Liege, Belgium. J. Z. Davis.

8874. **Revolver,** Allen's patent, 1841. J. Z. Davis.

8875. **The Original English Self-cocking Pistol.** J. Z. Davis.

8876. **Old English Flint-lock Pistol,** one of the first made in England. J. Z. Davis.

8877. **The Original Allen Revolver, 1837.** J. Z. Davis.

8878. **Sharp's Four-barrel Revolver.** J. Z. Davis.

8879. **Old English Belt Blunderbuss.** J. Z. Davis.

8880. **Lafourchaux 9-Millimeter Revolver,** Liege, Belgium. J. Z. Davis.

8881. **Pistol,** made by Wm. S. Boyd, an apprentice, fifteen years of age, in the shops of I. P. Morris, Philadelphia, Pennsylvania, in 1850. J. Z. Davis.

8882. **Pair of Ancient Japanese Matchlock Pistols,** bearing the coat of arms of the Togugawa family, and probably once owned by one of the Shoguns of that dynasty. Date, end of the eighteenth century. J. Z. Davis.

8883. **War Club,** New Hebrides Islands. J. Z. Davis.

8884. **Japanese Sword.** J. Z. Davis.

8885. **Japanese Sword.** J. Z. Davis.

8886. **Japanese Knife and Sheath.** J. Z. Davis.

8887. **Japanese Knife and Sheath.** J. Z. Davis.

8888. **Japanese Knife and Sheath.** J. Z. Davis.

8889. **Japanese Knife and Sheath.** J. Z. Davis.

8890. **Japanese Pocket Knife,** in case which is also a measure. J. Z. Davis.

8891. **Japanese Knife two hundred Years Old,** with measure on the blade for dividing up pill mass into uniform sized pills. J. Z. Davis.

8892. **Japanese Knife and Sheath.** J. Z. Davis.

8893. **Japanese Pocket Tinder Box and Steel,** for procuring fire. J. Z. Davis.

8894. **Figure of a Cow,** in bronze, Japan. J. Z. Davis.

8895. **Figure of a Horse,** in bronze, Japan. J. Z. Davis.

8896. **Figure of a Frog,** in bronze, Japan. J. Z. Davis.

8897. **Figure of a Rooster,** in bronze, Japan. J. Z. Davis.

8898. **Figure of a Goat,** in bronze, Japan. J. Z. Davis.

8899. **Figure of a Rabbit,** in bronze, Japan. J. Z. Davis.

8900. **Figure of a Monkey,** in bronze, Japan. J. Z. Davis.

8901. **Emu Eggs** (two), Australia. Dr. Thomas Porter.

8902. **Tobacco Pipe,** of bamboo and metal, Japan. J. Z. Davis.

8903. **Cup,** made of tortoiseshell, with gilt ornamentation, Japan. J. Z. Davis.

8904. **Dish,** made of tortoiseshell, with gilt ornamentation, Japan. J. Z. Davis.

8905. **Dish,** made of tortoiseshell, with gilt ornamentation, Japan. J. Z. Davis.

8906. **Dish,** made of tortoiseshell, with gilt ornamentation, Japan. J. Z. Davis.

8907. **Card Basket,** of tortoiseshell, with gilt ornamentation, Japan. J. Z. Davis.

8908. **Dish,** of lacquered wood, with gilt ornamentation, Japan. J. Z. Davis.

8909. **Dish,** of lacquered wood, with gilt ornamentation, Japan. J. Z. Davis.

8910. **Dish,** of copper, in imitation of a leaf, with insects and flower in white metal, Japan. J. Z. Davis.

8911. **Dish,** of copper, in imitation of a leaf, with insects, Japan. J. Z. Davis.

8912. **Basket,** of flat wire, Japan. J. Z. Davis.

8913. **Walking Cane,** highly ornamented, Japan. J. Z. Davis.

8914. **Figure of a Rat,** on bamboo stump, Japan. J. Z. Davis.

8915. **Figure of a Crab,** in bronze, Japan. J. Z. Davis.

8916. **Figure of a Seal,** in bronze, Japan. J. Z. Davis.

8917. **Double Figure,** carved in ivory, Japan. J. Z. Davis.

8918. **Figure of a Priest,** in ivory, Japan. J. Z. Davis.

8919. **Figure of an Old Man,** in ivory, Japan. J. Z. Davis.

8920. **Grotesque Figure,** in lacquered wood, Japan. J. Z. Davis.

8921. **Grotesque Figure,** in lacquered wood, Japan. J. Z. Davis.

8922. **Figure of a Woman,** in agalmatolite, Japan. J. Z. Davis.

8923. **Figure of a Dog,** in bronze, Japan. J. Z. Davis.

8924. **Figure of a Bird,** in bronze, Japan. J. Z. Davis.

8925. **Pocket Inkstand and Penholder,** Japan. J. Z. Davis.

8926. **Pocket Inkstand and Penholder,** Japan. J. Z. Davis.

8927. **Paper Cutter,** of sandalwood, elaborately carved, Japan. J. Z. Davis.

8928. **Paper Cutter,** of tortoiseshell, with gilt ornamentation, Japan. J. Z. Davis.

8929. **Opium Pipe,** China. J. Z. Davis.

8930. **Brass Lamp,** used with opium pipe, No. 8929, China. J. Z. Davis.

8931. **Opium Box,** of horn, China. J. Z. Davis.

8932. **Tobacco Pipe,** China. J. Z. Davis.

8933. **Tobacco Pipe,** China. J. Z. Davis.

8934. **Tobacco Pipe,** of elaborate construction, with water chamber through which the smoke is drawn, and receptacle for tobacco, China. J. Z. Davis.

8935. **Flute,** made of bamboo, China. J. Z. Davis.

8936. **Back Scratcher,** China. J. Z. Davis.

8937. **Round Box** of lacquerware, highly ornamented with designs in white metal, Japan. J. Z. Davis.

8938. **Paper Cutter,** bamboo, inlaid with shell and gilt, Japan. J. Z. Davis.

8939. **Tools** (two), thought to be used by dentists, Japan. J. Z. Davis.

8940. **Cap,** of sealskin, worn by the Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8941. **Cap** of grebe skin and other fur, worn by Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8942. **Fur Suit** in miniature, worn by the Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8943. **Pouch** of fur, Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8944. **Waterproof Overcoat,** made from the intestines of seals, Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8945. **Pair of Overshoes and Leggings,** Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8946. **Model of Skin Canoe,** Esquimaux of Arctic shore of Alaska. J. Z. Davis.

8947. **Tobacco Pouch** of sealskin, Esquimaux of Arctic shore of Alaska. J. Z. Davis.

8948. **Shade** made of skin, to protect the eyes from the glare of the snow, Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8949. **Fur Coat,** miniature of, as worn by Esquimaux of Arctic shore of Alaska. J. Z. Davis.

8950. **Bone and Ivory Ornaments** (six), carved by Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8951. **Shoes and Leggings,** miniature of, worn by Esquimaux of Arctic shore of Alaska. J. Z. Davis.

8952. **Pair of Child's Shoes** of skin, Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8953. **Pair of Child's Shoes** of skin, Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8954. **Pair of Child's Mittens** of skin, Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8955. **Pipe Made of Copper and Wood,** bound with thongs of skin, Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8956. **Necklace,** worn by the Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8957. **Fork,** made of wood and the claws of some animal, Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8958. **Bow and two Arrows,** Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8959. **Harpoon Heads** (two), of bone and iron, detachable, with hole for attaching a line, Esquimaux of Arctic shore of Alaska. J. Z. Davis.

8960. **Totem** of bone, carved, Esquimaux of the Arctic shore of Alaska. J. Z. Davis.

8961. **Celadonite** (hydrous silicate of iron and potassium), San Gregorio Ranch, San Mateo County, California. John Ralston.

8962. **Model** of Chlorination Apparatus for the extraction of gold from sulphurets.

8963. **Silver Ore,** large and rich specimen, weight, about two hundred and fifty pounds, Nuestra Señora Mine, Cosala District, Sinaloa, Mexico. Mark Cornish.

8964. **Pyrrhotite** (magnetic iron pyrites), with a small proportion of Sphalerite (zinc blende), Juneau, Alaska. Lewis A. Moore.

8965. **Manganese Ore** (pyrolusite, altered from rhodonite), Glen Brook, Lake County, California. H. A. Aldrich.

8966. **Clay,** containing a little sand, mica, and iron, Glen Brook, Lake County, California. H. A. Aldrich.

8967. **Aragonite,** cut and polished, Suisun, Solano County, California. Samuel Sonnenfeld.

8968. **Aragonite,** large polished slab, Suisun, Solano County, California. J. Z. Davis.

8969. **Ozocerite** (variety of), Southeastern Utah. William J. Madden.

8970. **Lignite,** Oil City, San Benito County, California. Frank Doutrick.

An interesting specimen, formerly a piece of wood, which has mostly become converted into lignite, with a silicified core or heart. On the lignite are mamilliary pyrites.

8971. **Iron Pyrites,** formed by chemical action in a mass of decomposed organic matter, containing sulphuric acid, found 100 feet underground, in the Nema Gravel Mine, Table Mountain, near Sonora, Tuolumne County, California. Charles Fitzgerald.

8972. **Cinnabar,** a crystallized crust on an impure clay, which also contains microscopic crystals of cinnabar.

8973. **Silver Ore,** Tepetate Mine, near Hermosillo, Sonora, Mexico. E. Wolleb.

8974. **Calamine** (silicate of zinc), and **Smithsonite** (carbonate of zinc), San Ygnacio Mine, Cerro Gordo, Inyo County, California.

8975. **Calamine** (silicate of zinc), and **Smithsonite** (carbonate of zinc), San Ygnacio Mine, Cerro Gordo, Inyo County, California.

8976. **Silver Ore**, Silver Star Mine, Mono County, California. H. J. Edwards.

8977. **Revolver**, old-fashioned French self-cocking pistol. Dr. B. B. Brewer.

8978. **Battle Axes** (two) New Hebrides Islands. J. Z. Davis.

8979. **Bond** of the Irish Republic, for the sum of ten dollars. William Ward.

8980. **Silk**; the first silk raised and reeled in California. J. Z. Davis.

8981. **Fossil Vertebræ of a Saurian**, Hunt County, Texas. H. L. Pittard.

Found in a railroad cut, twelve feet below the surface.

8982. **Feldspar** (orthoclase), and **Smoky Quartz Crystals**; large and remarkable specimen, Japan. J. Z. Davis.

8983. **Rods of Blue Glass**, from the Triple Roof, Temple of Heaven, Pekin, China. Miss Carrie Bromley.

The inside of each window was originally shaded with these glass rods, and when the sun shone through them it gave the magnificent interior of the Temple an indescribable beauty. Many of the shades are now broken, and the rods are being carried away by sight-seers. The dust of many years is on the rods.

8984. **United States Postal Currency** (three specimens). Charles W. White.

8985. **Gold Quartz**, from the Alaska Mining and Milling Co.'s Mine, on Douglass Island, Alaska. T. J. Hay.

8986. **Part of Lower Jaw and Teeth of Mastodon** (fossil), found in a gulch near Guadalajara, Mexico. J. Z. Davis.

8987. **Silver Ore** (rich), Jesus Maria Mine, near Chihuahua, Mexico. M. A. Wheeler.

8988. **Antimony Ore,** Stibnite (sulphide of antimony), nine miles southeast of Keene, Kern County, California. J. G. Williams.

8989. **Iron Oxide,** suitable for paint, San Bernardino County, California. Wm. Stockton.

8990. **Clay,** very pure, Sonoma County, California. L. B. Deney.

8991. **Silver Ore** (argentiferous galena), Tepetate Mine, Hermosillo District, Sonora, Mexico. E. Wolleb.

8992. **Spoons,** made of Pecten Shells, Japan. J. Z. Davis.

8993. **Hatband** of shells, made and worn by females of Hawaii. J. Z. Davis.

8994. **Necklace,** made and worn by natives of the South Sea Islands. J. Z. Davis.

8995. **Gold Quartz,** Davidson's Mine, near El Dorado, El Dorado County, California. T. Davidson.

8996. **Silicified Wood,** large specimen of the root of a tree or bush, Carr's Ranch, four miles north of Petaluma, Sonoma County, California. W. L. Watts.

8997. **Skull and Tusks of the Babyroussa,** a species of wild hog found in the Celebes Islands. J. Z. Davis.

8998. **Old Style Prussian Needle Gun,** used in the Franco-German War, 1870–71. J. Z. Davis.

8999. **Stream Tin Concentrations,** from near Custer City, Dakota. Melville Attwood.
Contains gold, rubies, and magnetic iron.

9000. **Silver Ore,** Native Silver in Erubescite (Peacock Copper), near Chloride, Black Range, New Mexico. Chas. Kaufman.

CALIFORNIA STATE MINING BUREAU

WM. IRELAN, JR., STATE MINERALOGIST.

CATALOGUE

OF THE

STATE MUSEUM OF CALIFORNIA, VOL.

BEING THE

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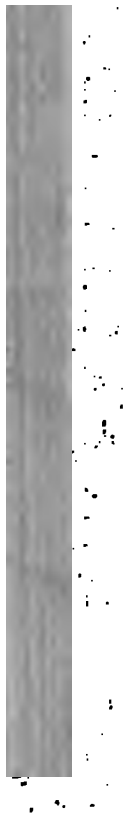
FROM MARCH 31, 1887, TO AUGUST 20, 1890.

SACRAMENTO:
STATE OFFICE, : : : J. D. YOUNG, SUPT. STATE PRINTING
1890.



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MUSEUM CATALOGUE.

9001. **Copper Ore** (erubescite, peacock copper), with native Silver, Silver Monument Mine, Chloride District, Black Range, New Mexico. Chas. Kaufman.

9002. **Hollow Brick,** two specimens of California manufacture. D. Morgan White.

9003. **Diatomaceous Earth,** Greer's Vineyard, near St. Helena, Napa County, California. R. E. Wood.

9004. **Indian Mortar,** Santa Catalina Island, Los Angeles County, California. Benjamin Hill.

9005. **Eggs and Horns** of the Horned Shark, Heterodontus francisci, a small species of shark, rarely exceeding three and one half feet in length. Benjamin Hill.

9006. **Cartridges,** eight sizes, not charged; used for blasting. Vulcan Powder Company.

9007. **Cap,** with wire attached, prepared for exploding by electricity. Vulcan Powder Company.

9008. **Caps** for exploding cartridges. Vulcan Powder Company.

9009. **Iron Plate,** showing fracture caused by exploding one ounce No. 1 dynamite powder thereon. (No. 1 powder contains 70 per cent nitro-glycerine.) Vulcan Powder Company.

9010. **Volcanic Dust,** from the eruption of Tarawera, New Zealand, June 10, 1886. Mrs. A. E. Bush.
Collected 23 miles from the volcano.

9011. **Fossil Shell,** San Benito County, California. C. A. Hitchcock.

9012. **Fossil Shell,** near Hamilton, White Pine County, Nevada.

9013. **Fossil,** Pescadero, San Mateo County, California. Dr. R. T. Maxwell.

9014. **Fossil Shells,** three, Tassajara Valley, Contra Costa County, California. G. W. Martin.

9015. **Fossil Shells,** two, Tassajara Valley, Contra Costa County, California. G. W. Martin.

9016. **Fossil Shells,** two, Tassajara Valley, Contra Costa County, California. G. W. Martin.

9017. **Fossil,** Genesee Valley, Plumas County, California. W. D. Minckler.

9018. **Fossil Vertebra,** Tunitas Creek, San Mateo County, California.

9019. **Fossils,** nine specimens, Posa Creek, Kern County, California. E. Donnelly, M.D.

9020. **Fossils,** three specimens, Sailor Cañon, Placer County, California. J. R. Sanborn.

9021. **Fossils,** two specimens, Admiralty Island, Alaska. E. O. C. Acker.

9022. **Fossiliferous Rock,** from Alum Rock Cañon, Santa Clara County, California.

9023. **Fossil Shell,** Township 1 south, Range 1 east, Mount Diablo, Contra Costa County, California.

9024. **Fossil Shells,** four specimens, Livermore Valley, Alameda County, California. F. Smith.

9025. **Fossil Shells,** three specimens, Montecito, Santa Barbara County, California. E. F. Lorquin.

9026. **Skull of Wild Boar,** Mana, Hawaii. J. Z. Davis.

9027. **Concretion,** curiously perforated. Found in the Magalia Gravel Mine, Butte County, California.

9028. **Stone Sinker,** for fishing line, used by Indians, Copley Station, Shasta County, California. Almarin B. Paul.

9029. **Deweylite** (hydrous silicate of magnesium), in layers with Serpentine and Aragonite, Southern Oregon. John Switzer.

9030. **Coal,** Sitka, Alaska. John Switzer.

9031. **Shale,** containing fossil shells and coal, from the bottom of a well at the school house near Paskenta, Tehama County, California. J. Z. Davis.

9032. **Glauberite** (sulphate of calcium and sodium), San Bernardino County, California. Henry G. Hanks.

9033. **Gold Quartz,** four specimens, Bridgewater, Vermont. Hon. John A. Riddle.

9034. **Gold Quartz,** Scott's Bar, Siskiyou County, California. O. Newhouse.

9035. **Sandstone,** large dressed block, Blacklock Quarry, Curry County, Oregon. From the Company.

A fine building stone, of very even texture, and free from flaws.

9036. **Silver Ore,** Carson Creek Quartz Mine, Section 23, Township 2 north, Range 13 east, Mount Diablo meridian, Calaveras County, California. S. L. Burbridge.

9037. **Fossil Plants,** in Slate, Stickeen River, British Columbia. K. Spates.

9038. **Marble,** mottled, Salt Lake, Utah. J. Z. Davis.

9039. **Aragonite,** "Onyx Marble" (carbonate of lime), from a mineral spring near Bridgeport, Mono County, California.

9040. **Quartzose Schist.** Locality unknown.

9041. **Indian Cooking Vessel** (two pieces of), found in 1886, on Section 21, Township 25 south, Range 23 east, Kern County, California. Menzo Spring.

It was originally about 15 inches broad and 12 inches deep. It was made of a micaceous stone, and is believed to be the only vessel made of this material ever found anywhere. The work was well done, the curve and thickness being very uniform.

9042. **Tetrahedrite** (arseno-antimonial silver and copper), De Soto Mine, Humboldt County, Nevada. S. Heydenfeldt, Jr.

9043. **Manganese Ore,** San Rafael Mountain, 7 miles northeast of Santa Inez, and about 25 miles from Gaviota, Santa Barbara County, California. Samuel Staddon.

9044. **Fossils,** five specimens, Little Sespe, Petro- eum District, Ventura County, California. Joh B. Treadwell.

9045. **Silver Ore,** Occidental Mine, Calico District, San Bernardino County, California. J. R. Scup- am.

9046. **Silver Ore,** rich, Occidental Mine, Calico Dist rict, San Bernardino County, California. J. R. S cup- ham.

9047. **Silver Ore,** Mammoth Mine, Calico District, San Bernardino County, California. J. R. Scuph- am.

9048. **Silver Ore,** Thunder Mine, Calico District, San Bernardino County, California. J. R. Scuph- am.

9049. **Silver Ore,** rich, Red Cloud Mine, Calico Distr ict, San Bernardino County, California. J. R. Sc up- ham.

9050. **Rock Specimen,** Wall Street Cañon, Coun try Rock of Calico District, San Bernardino Cou ty, California. J. R. Scupham.

9051. **Rock Specimen,** Red Cloud Mine, Calico Distri ict, San Bernardino County, California. J. R. Sc up- ham.

9052. **Rock Specimen,** Garfield Mine, Calico Distri- ict, San Bernardino County, California. J. R. Sc up- ham.

9053. **Rock Specimen,** Occidental Mine, Calico Distric ict, San Bernardino County, California. J. R. Scu up- ham.

9054. **Rock Specimen,** mouth of Deep Cañon, Calic co District, San Bernardino County, California. J. R. Scupham.

9055. **Diatomaceous Earth,** Oregon. S. Heydenfeldt, J Jr.

9056. **Copper,** Native, Ajo Mine, Maricopa Count y, Arizona. S. Heydenfeldt, Jr.

9057. **Calcite** (carbonate of lime), White Pine Count y, Nevada. S. Heydenfeldt, Jr.

Realgar (sulphide of arsenic), Seattle, Washington Territory. S. Heydenfeldt, Jr.

Syenite and **Minette**, Comstock Lode, Storey County, Nevada. S. Heydenfeldt, Jr.

Obsidian, Lake County, California. S. Heydenfeldt, Jr.

Obsidian and **Sulphur**, Lake County, California. S. Heydenfeldt, Jr.

Obsidian, Rosebaugh Ranch, Lake County, California. S. Heydenfeldt, Jr.

Obsidian, near Kelseyville, Lake County, California. S. Heydenfeldt, Jr.

Quartz Crystal, with included Rutile. S. Heydenfeldt, Jr.

Jasper, near St. Helena, Napa County, California. S. Heydenfeldt, Jr.

Silver Ore, Kellinger Ledge, Copper City, Shasta County, California. S. Heydenfeldt, Jr.

Silver Ore, Soledad de los Frailes Mine, Sinaloa, Mexico. S. Heydenfeldt, Jr.

Analcite (hydrous silicate of sodium and aluminum), Weehawken, New Jersey. S. Heydenfeldt, Jr.

Limonite (hydrated sesquioxide of iron, botryoidal), Mark West, Sonoma County, California. S. Heydenfeldt, Jr.

Feldspar (silicate of aluminum and potassium), Yosemite Valley, Mariposa County, California. S. Heydenfeldt, Jr.

Gold in Calcite, Muletes Mine, Sonora, Mexico. S. Heydenfeldt, Jr.

Barite (sulphate of barium), Cheshire, Connecticut. S. Heydenfeldt, Jr.

9073. **Serpentine** and **Magnesite**, Hoboken, New Jersey. S. Heydenfeldt, Jr.

9074. **Cuprite** (oxide of copper), Roanoke Mine, Battle Mountain, Nevada. S. Heydenfeldt, Jr.

9075. **Silver Ore**, Atlanta Mine, Alturas County, Idaho. S. Heydenfeldt, Jr.

9076. **Bituminous Shale**, Monterey County, California. S. Heydenfeldt, Jr.

9077. **Indicolite**, a variety of Tourmaline. S. Heydenfeldt, Jr.

9078. **Silver Ore**, New Coso District, Inyo County, California. S. Heydenfeldt, Jr.

9079. **Pyrite** (sulphide of iron), Hank Mitchell's Coal Mine, Eureka County, Nevada. S. Heydenfeldt, Jr.

9080. **Chalcosite** (sulphide of copper). S. Heydenfeldt, Jr.

9081. **Gold Quartz**, Mount Auburn Mine, near Nevada City, Nevada County, California. S. Heydenfeldt, Jr.

9082. **Pyrargyrite** (sulph-antimonide of silver), Oregon Mine, Austin, Nevada. S. Heydenfeldt, Jr.

9083. **Allochroite** (andradite, variety of garnet), Pfitsch, Tyrol. S. Heydenfeldt, Jr.

9084. **Cinnabar** (Quicksilver Ore), El Dorado County, California. S. Heydenfeldt, Jr.

9085. **Silver Ore with Wulfenite**, Jackson Mine, Eureka, Nevada. S. Heydenfeldt, Jr.

9086. **Gold in Talcose Slate**, Homestake Mine, Black Hills, Dakota. S. Heydenfeldt, Jr.

9087. **Gold in Micaceous Talcose Slate**, Homestake Mine, Black Hills, Dakota. S. Heydenfeldt, Jr.

9088. **Silver Ore**, Silver King Mine, Pioneer District, Pinal County, Arizona. S. Heydenfeldt, Jr.

9089. **Silver Ore,** Ophir Mine, Comstock Lode, Storey County, Nevada. S. Heydenfeldt, Jr.

9090. **Silver Ore,** Justice Mine, Comstock Lode, Storey County, Nevada. S. Heydenfeldt, Jr.

9091. **Antimony Ore** (stibnite), Santa Clara County, California. S. Heydenfeldt, Jr.

9092. **Silver Ore,** Rising Star Mine, Flint District, Owyhee County, Idaho. S. Heydenfeldt, Jr.

9093. **Diorite with Zeolites,** west of ore body on the 1500-foot level of the Consolidated Virginia and California Mine, Comstock Lode, Storey County, Nevada. S. Heydenfeldt, Jr.

9094. **Silver Ore** (partzite), rich antimonial Silver, Kerrick Mine, Mono County, California. S. Heydenfeldt, Jr.

9095. **Mercury,** Native, California. S. Heydenfeldt, Jr.

9096. **Cinnabar** (sulphide of mercury), with Iron Pyrites, Oceanic Quicksilver Mine, San Luis Obispo County, California. S. Heydenfeldt, Jr.

9097. **Graphite,** Port Clarence, Grantley Harbor, Behring's Straits, Alaska. S. Heydenfeldt, Jr.

9098. **Dialogite** (carbonate of manganese), Austin, Nevada. S. Heydenfeldt, Jr.

9099. **Pyrophyllite** (hydrous silicate of aluminum), North Carolina. S. Heydenfeldt, Jr.

9100. **Tourmaline,** near Virginia City, Storey County, Nevada. S. Heydenfeldt, Jr.

9101. **Rock Specimen,** Basalt, Napa County, California. S. Heydenfeldt, Jr.

9102. **Manganese Ore** (pyrolusite), near Angels, Calaveras County, California. S. Heydenfeldt, Jr.

9103. **Silver Ore** (argentiferous galena), Grand Mine, Cerro Gordo District, Inyo County, California. S. Heydenfeldt, Jr.

9104. **Encrinites,** Mesozoic Fossil. S. Heydenfeldt, Jr.

9105. **Strontianite** (carbonate of strontium). Germany. S. Heydenfeldt, Jr.

9106. **Wollastonite** (silicate of calcium). S. Heydenfeldt, Jr.

9107. **Copper Ore** (chalcopyrite), Cambria, San Luis Obispo County, California. J. C. Baker.

9108. **Section** of a common white pine timber, originally 14 inches square, placed in the Consolidated Virginia Mine, in 1876, on the 1500-foot level. Frank E. Fielding.

It now measures 5¼ inches by 11¼, and is as hard and heavy, and nearly as black, as ebony, showing the effect of the enormous pressure it has sustained, together with the heat and moisture of the mine.

9109. **Borax,** known in trade as "large crystal," or "jewelers borax," Harmony Borax Company, Alameda, California.

9110. **Boracic Acid** (refined), Harmony Borax Company, Alameda, California.

9111. **Gypsum,** Selenite (sulphate of lime). William D. Johnston, M.D.

9112. **Gold Quartz,** West Point, Calaveras County, California. A. Meyer.

9113. **Hematite** (sesquioxide of iron), Shasta County, California.

9114. **Ammonite,** California Fossil, Shasta County, California.

9115. **Auriferous Vein Matter,** Oro Fino, or Big Cañon Gold Mine, 14 miles southeast from Shingle Springs, El Dorado County, California. D. W. C. Morgan.

9116. **Rock Specimen,** wall rock, east or hanging wall of the Barnes Mine, near Shingle Springs, El Dorado County, California. D. W. C. Morgan.

9117. **Gold in Calcite,** Barnes Mine, near Shingle Springs, El Dorado County, California. D. W. C. Morgan.

9118. **Rock Specimen,** wall rock, foot wall of Barnes Mine, near Shingle Springs, El Dorado County, California. D. W. C. Morgan.

9119. **Gold Quartz,** rich in free gold and tellurides of gold and silver, six specimens, Providence Mine, Nevada City, Nevada County, California. Melville Attwood.

9120. **Pocket Pistol;** percussion lock; patented April 16, 1845. Melville Attwood.

9121. **Japanese Percussion Lock Pistol,** made in 1834. Melville Attwood.

9122. **Fossils,** Butte County, California. C. H. Leadbetter, Jr.

9123. **Picrolite** and **Serpentine,** Frazier Valley, Tulare County, California. M. Braverman.

9124. **Epidote,** crystals, Three Rivers, Tulare County, California. M. Braverman.

9125. **Selenite,** in crystals (sulphate of lime), North Jackson, Ohio. M. Braverman.

9126. **Silver Ore,** 270-foot level of the Xicotenatl Mine, Sinaori, Durango, Mexico. F. W. Fehser.

9127. **Japanese Pheasant.** Charles R. Wores.

9128. **Coin,** one "Double." Island of Guernsey, value one quarter cent. Miss Bertha A. White.

9129. **Conglomerate,** Santa Rosa, Sonoma County, California. A. W. Dana.

This is a decomposed feldspathic rock—a variety of kaolin.

9130. **Manganese Ore** (pyrolusite), Cholone District, near Soledad, Monterey County, California. H. F. Melville.

9131. **Margarodite** (hydrous silicate of aluminum and potassium), "hydrated mica," "antonite," San Antonio, Lower California, Mexico. C. H. Leadbetter, Jr.

NOTE.—These last two are common names for the mineral.

9132. **Silver Ore**, containing Pyrargyrite, Mina Purissima Concepcion de Nuestra Señora, Sinaloa, Mexico. A. J. Holmes.

9133. **Manganese Ore** (pyrolusite), Stony Creek, Colusa County, California. W. H. Wilton.

9134. **Lignite**, San Benito County, California. E. P. Hutchins.

9135. **Tourmaline Schist**, San Benito County, California. E. P. Hutchins.

9136. **Japanese Sword**, with small knife in the scabbard. Melville Attwood.

9137. **Sections of Mine Timbers** (four) from the south stopes of the 1550-foot level of the Consolidated Virginia Mine, Comstock Lode, Nevada. W. H. Patton.

These sections, originally 14 inches square, the timbers being the common pine of the Sierra Nevada, show the effects of the enormous pressure to which they have been subjected, together with heat, moisture, mineral infiltrations, and smoke from a fire which has long smouldered in the mine. They were placed in the mine in 1875, and removed in April, 1886. The wood is now hard, heavy, and dark colored, its nature having undergone an entire change.

9138. **Gold Quartz**, Purissima Mine, San José de Gracia, Sinaloa, Mexico. George Davis.

9139. **Gold Quartz**, showing free gold, Santa Rita Mine, San José de Gracia, Sinaloa, Mexico. George Davis.

9140. **Silver Ore** (argentiferous galena), 100-foot level, Ravenswood Mine, North Queensland, Australia. Richard H. King.

9141. **Silver Ore** (argentiferous galena), 165-foot level, Ravenswood Mine, North Queensland, Australia. Richard H. King.

9142. **Silver Ore** (argentiferous galena), 700-foot level, extension of Ravenswood Mine, North Queensland, Australia. Richard H. King.

Chloritic Slate, of delicate green tint, with numerous minute striæ of peculiar appearance. Prepalæozoic System, Valle Grande di Lanzo, Cottian Alps, Ceres, Turin, Italy.

Forms strata concording with those of serpentine, which is only a few yards distant from the point whence this specimen was procured. Used locally for roofing purposes.

Recent Gneiss, in which quartz forms the principal element, while the silver-white muscovite is mostly concentrated in certain places, the small particles having, moreover, a tendency to assume a circular form. Prepalæozoic System, Val Chiusella, Graian Alps, Traversella, Turin, Italy.

Used for roofing, but is massive and heavy.

Recent Gneiss, having the appearance vulgarly known as "pepper and salt," the particles of gray quartz and feldspar intimately mixed with dark mica, both in small particles. Prepalæozoic System, Melanaggio Quarries, Porta, Val Chisone, Cottian Alps, Turin, Italy.

This is a very soft variety of gneiss, and can be admirably cut and worked for columns, capitals, basements, etc.

Talcose Schist, of a delicate aqua-marine green and pale pink, and in near relation to serpentine. Prepalæozoic System, Valle Grande di Lanzo, Cottian Alps, Germagnano, Turin, Italy.

Pure White Steatite, or indurated Talc. Prepalæozoic System, Maniglia, Valle del Germagnasca, Waldensian Valleys, Cottian Alps, Turin, Italy.

Forms extensive and important lenticular masses or strata in the midst of the crystalline rocks and schists of the upper part of the valley of the Germagnasca. It is very refractory.

Auriferous Pyrites. Prepalæozoic System, Pestarena Gold Mine, Macugnaga (Novara), Val Anzasca, Lepontine Alps, Italy.

Lodes in the mica schists of Monte Rosa, only traces of gold.

Quartz, gangue of the gold bearing lodes of Monte Rosa, with pyrottina. Prepalæozoic System, Tagliata Gold Mine, in Val Toppa Rumianca (Novara), Val Anzasca, Lepontine Alps, Italy.

9150. **Scheelite**, with massive white quartz, gangue of gold bearing lodes. Prepalæozoic System, Tagliata Gold Mine, Rumianca (Novara), Val Anzasca, Lepontine Alps, Italy.

9151. **Massive Chalcopyrites**, from a lode of considerable richness in serpentine. Prepalæozoic System, Calcante Copper Mine, Mezzenile, Valle Grande di Lanzo, Cottian Alps, Turin, Italy.

9152. **Chalcopyrites**, accompanied by chloritic schists. Prepalæozoic System, Cavania Copper Mine, Sparone, Valle del Orco, Graian Alps, Turin, Italy.

9153. **Chalcopyrites**, from a lode in chloritic schists. Prepalæozoic System, San Giacomo Copper Mine, Riva, Val Sesia, Pennine Alps, Italy.

This mine is situated near the southern base of Monte Rosa.

9154. **Iron-gray Argillaceous Schists**, with fine and abundant transverse markings of great beauty. Prepalæozoic System, Massa di Carrara, Valle del Frigido, Apennine Region, Italy.

9155. **Mica Schist**, underlying the bardiglio and statuary marbles. Prepalæozoic System, Trambiserra Marble Quarries, Seravezza, Valle del Versiglia, Apennine Region, Lucca, Italy.

9156. **Rich Stibnite** (best antimony ore). Silurian System, Suergia Antimony Mine, Villasato, Cagliari, Insular Region, Sardinia, Italy.

9157. **Brownish-yellow Calamine** (carbonate of zinc). Silurian System, Masua Lead and Zinc Mine, Iglesias, Cagliari, Insular Region, Sardinia, Italy.

Contains about 42 per cent of zinc. Forms very rich superficial masses and deposits in the silurian limestone.

9158. **Medium-grained Galena**, rich lead ore, containing 70 per cent of lead and 20.5 per million of silver. Silurian System, Monteponi Lead Mine, Iglesias, Cagliari, Insular Region, Sardinia, Italy.

This ore forms immense columns parallel to the stratification of the inclosing silurian limestone, at the point where the rocks present a great anticlinal axis. This is one of the largest and richest lead mines in Italy.

9159. **Medium-grained Galena,** forming regular lodes traversing silurian limestone and schist. Silurian System, Malacalzetta Lead Mine, Iglesias, Cagliari, Insular Region, Sardinia, Italy.

9160. **Boghead Schist.** Triassic System, Resiutta, Udine, Alpine Region, Italy.

This valuable schist contains various mineral oils, which can be extracted separately by a proper process of distillation. It is the only locality in Italy where such schists are known to exist.

9161. **Pale, Yellowish-white, somewhat Marly Limestone,** in relation with the boghead schists. Triassic System, Resiutta, Udine, Alpine Region, Italy.

9162. **Grayish-white Compact Dolomite,** in relation to rich beds of boghead schist. Triassic System, Resiutta, Udine, Alpine Region, Italy.

9163. **Baritina of Crystalline Structure,** forming large lodes in the triassic rocks of this valley. Triassic System, Val Sassina, Introbbio, Como, Lepontine Alps, Alpine Region, Italy.

Cultivated on an extensive scale.

9164. **Grayish-brown Limestone,** with tendency to crystallize, and spathose structure, known to architects as "Pietra di Saltriochiaro." Juraliassic System, Saltrio, Como, Lepontine Alps, Alpine Region, Italy.

A very useful and durable building stone, much employed in Lombardy for ornamental work.

9165. **Whitish Compact Limestone.** Cretaceous System, Maddaloni, Naples, Mediterranean Slope, Apennine Region, Italy.

Forms very important mountain chains.

9166. **Bituminous Black Limestone,** of impure nature, possessing irregular fracture, and useless for building purposes, as it forms thin beds, alternating with blackish-blue schists. Eocene System, Nervi, Genoa, Mediterranean Slope, Apennine Region, Italy.

9167. **Compact Yellowish-white Limestone** (nummulitic). Eocene System, Gassino, Turin, Adriatic Slope, Apennine Region, Italy.

Used for making fat lime of good quality. As a building stone it has proved a failure, when attempts have been made to polish it.

9168. **Slightly Yellowish-white, Marly Limestone.** Eocene System, Casale, Monferrato, Alexandria, Adriatic Slope, Apennine Region, Italy.

Employed for making hydraulic lime.

9169. **Compact Black Lignite.** Eocene System, Bacu Abis Mine, Gonnesa, Cagliari, Insular Region, Sardinia, Italy.

Forms a bed of 0.80 metre to 1.10 thick, accompanied by four smaller beds, from 0.25 to 0.60 metre, separated by strata of pale yellowish limestone.

9170. **Compact Black Lignite.** Miocene System, Pianpagavello Mine, Sarzana, Genoa, Mediterranean Slope, Apennine Region, Italy.

Analysis: Carbon, 61.62; hydrogen, 5.87; oxygen, 26.41; nitrogen, 2.4; ash, 3.7; thickness of bed, 1 to 1.5 metre. There is another bed of 3 metres, but of somewhat schistose nature.

9171. **Black Lignite.** Miocene System, Murlo Mine, Murlo, Sienna, Mediterranean Slope, Apennine Region, Italy.

Forms a bed from 1.80 metre to 5 metres thick. Analysis: Carbon and volatile matter, 84.10 per cent; hygroscopic water, 10.59 per cent; ash, 5.30 per cent; sulphur, traces.

9172. **Largely Crystalline Gypsum,** constituting extensive deposits in the shape of masses imbedded and interstratified with marls. Miocene System, San Giorgio di Casale, Adriatic Slope, Apennine Region, Alexandria, Italy.

Used for making plaster of paris.

9173. **Lamellar Gypsum** (selenite), containing as impurity a sensible amount of bituminous matters. Miocene System, San Giorgio di Casale, Adriatic Slope, Apennine Region, Alexandria, Italy.

Forms an extensive deposit in the midst of marls. Employed for making the finest variety of plaster of paris, for modeling, etc.

9174. **Spheroidal Mass of White Alabaster,** veined with bluish-gray markings, known as "Alabastro Agatato." Miocene System, Annunziata Quarries, Volterra, Pisa, Mediterranean Slope, Apennine Region, Italy.

These "ovuli" are found of all sizes up to 2½ feet in diameter in the marls.

Rich Sulphur Ore, of a fine yellow color, and somewhat resinous luster, inclosed in indurated gray marl. Miocene System, Sulphur Mine, Tufo, Principato Ulteriore, Adriatic Slope, Apennine Region, Italy.

This sulphur ore has not the remotest relation to any volcanic phenomena. It forms beds in the midst of sedimentary Upper Miocene marls.

Compact Brownish-yellow Sulphur Ore, of somewhat resinous appearance. Miocene System, Morcia Sulphur Mine, Lunano, Valle del Foglia, Pesaro and Urbino, Adriatic Slope, Apennine Region, Italy.

Forms beds of rich ore, from 1.5 to 3.5 metres thick, underlying strata of Upper Miocene marl and gypsum.

Brownish-gray Fossiliferous Marl, of marine origin. Miocene System, Collina di Torino, Turin, Adriatic Slope, Apennine Region, Italy.

Sulphur Ore, associated very intimately with bitumen. Miocene System, Manoppello, Abruzzo Citeriore, Valle del Pescara, Adriatic Slope, Apennine Region, Italy.

These minerals are found in Upper Miocene rocks, of sedimentary origin exclusively.

Earthy Bitumen. Miocene System, Manoppello, Abruzzo Citeriore, Valle del Pescara, Adriatic Slope, Apennine Region, Italy.

This mineral is worked extensively for making various kinds of oils of different densities. American machinery has been generally employed where wells have been sunk for obtaining the petroleum, when accompanying the hydrocarbons.

Brownish-gray Clay, of marine origin, very stiff. In places it contains numerous mollusca, for the most part living Mediterranean species. Pliocene System, Buceto; flanks of the Epomeo, the principal volcano of the island; Casamicciola, Ischia, Naples, Apennine Region, Italy.

This is a very classical clay, having been employed for making pottery, etc., since the times of the Greek colonists; that is, from before the foundation of Rome, about twenty-eight centuries ago.

Brownish-yellow Arenaceous Limestone, locally termed "Panchina." Quaternary System, Leghorn, Mediterranean Slope, Apennine Region, Italy.

It is an excellent and durable building stone, and has been extensively employed in building the quays of the port of Leghorn. It is also much used for coping stones for roadside walls, and for building houses, etc.

9182. **Compact White Travertine.** Quaternary System, Orte, Rome, Lower Valley of the Tiber, Apennine Region, Italy.

Forms very extensive beds several yards thick, due to the deposition of mineral matter from former thermal springs, in connection with extinct volcanoes. It is an excellent building stone, and is also adapted to ornamental work. It hardens on exposure to the air.

9183. **Lignite**, of inferior quality, due to the imperfect mineralization of exogenous trees. Pliocene Series, Quaternary System, Tutti i Santi Lignite Mine, Leffe, Val Gandino, Rhœtian Pre-Alps, Bergamo, Alpine Region, Italy.

Principally used in factories for steam boilers, and for burning brick.

9184. **Conglomerate**, consisting chiefly of pebbles of quartz and other rocks brought down from the Alps by the action of torrents, and subsequently cemented together in a loose manner by calcareous matter. Recent series, Quaternary System, from the vicinity of the Po, Valley of the Po, above Turin, Alpine Region, Italy.

A local prehistoric deposit, of considerable thickness in places.

9185. **Brownish-yellow Deposit**, concretionary, and somewhat stalactitical, formed by the acidulo-ferruginous spring of "Jeanne Baptiste." Recent series, Quaternary System, Courmayeur, Val d'Aosta, Graian Alps, Turin, Alpine Region, Italy.

It is derived from palæozoic and prepalæozoic rocks of the group of Mont Blanc. (Contemporaneous deposit.)

9186. **Calcareous Concretionary Deposit**, of concentric mamilliary structure, associated with volcanic tufa. Recent series, Quaternary System, Naples, Apennine Region, Italy.

Formed in the Lake of Agnano (recently drained), the crater of the extinct volcano of Agnano, near the celebrated "Grotte del Cane," region of the extinct volcanoes of the Phlegræan Fields. It contains planorbis, lymnea, and the other lacustral gasteropods. (Contemporaneous deposit.)

9187. **Snow-white Travertine**, of foliated structure. Recent series, Quaternary System, Rapolano, Mediterranean Slope, Apennine Region, Sienna, Italy.

This stone, produced by the calcareous deposit of the thermal springs, is not more than a few months old, as it consolidates at once. (Contemporaneous rocks.)

Travertine, of honey-comb structure, pure snow-white. Recent series, Quaternary System, Rapolano, Mediterranean Slope, Apennine Region, Sienna, Italy.

This peculiar appearance is due to the emanations of carbonic acid gas from the mineral springs underlying the travertine, during the process of solidification of the rock, which is not more than a year or two old at the utmost, forming, as it does, under our own eyes.

Compact Snow-white Travertine, produced by the saline deposit of the thermal mineral springs of Rapolano. Recent series, Quaternary System, Rapolano, Mediterranean Slope, Apennine Region, Sienna, Italy.

It forms an excellent, elegant, and durable building stone, admirably adapted for ornamental work.

Fine Alluvium, of the Po, containing distinctly visible particles of mica. Recent series, Quaternary System, Pontelagoscuro, Delta of the Po, Ferrara, Apennine Region, Italy.

This very fertilizing deposit is brought down in considerable quantities yearly. When indurated it would produce a sandstone like "macigno."

Rich Specular Iron Ore, or oligist, containing about 65 per cent of iron, period undetermined, Rio Iron Mine, Rio nell' Elba, Island of Elba, Leghorn, Apennine Region, Italy.

This is a typical specimen of most of the ore of this celebrated iron mine, which has been worked since the times of the Romans. See Jervis' "Mineral Resources of Central Italy."

Chalcedony. Upper Tertiary System, Bosa, Sassar, Island of Sardinia, Insular Region, Italy.

Forms immense masses in the midst of volcanic rocks.

Dark Gray Trachyte, containing very small, indistinct crystals of glassy feldspar. Quaternary System, Civita Vecchia, Rome, Italy.

It is a useful building stone, but inferior to that of Ischia, Pozzuoli, Casamicciola, etc.

Compact Alunite, of impure white color. Quaternary System, Tolfa, Rome, Mediterranean Slope of the Apennines, Italy.

Formed from the decomposition of trachyte, acted upon by acid vapors.

9195. **Somewhat Yellowish-white Alunite**, of radiating structure. Quaternary System, Tolfa, Rome, Mediterranean Slope of the Apennines, Italy.

Analysis: KO, 18 per cent; Al 2 O3, 40 per cent; Fe 2 O3, 3 per cent. These minerals are largely used at Civita Vecchia for the manufacture of the celebrated "Roman Alum."

9196. **Dark Brownish-red Trachyte**, of rough feel, and containing distinct tabular crystals of sanidine. Quaternary System, from the quiescent volcano of the Solfatara Pozzuoli, Naples, Italy.

Volcanoes of the Phlegrœan Fields, Apennine Region.

9197. **Ferruginous Trachyte**, slightly acted on by the acid vapors emanating from the rock. Quaternary System, from the interior of the crater of the Solfatara, Pozzuoli, Naples, Italy.

The crystals of sanidine in this sample are yet undecomposed.

9198. **Reddish-brown Volcanic Tufa**, forming thin beds in contact with gray trachyte. Quaternary System, from the Solfatara, Pozzuoli, Naples, Italy.

9199. **Gray Trachyte**, containing a few crystals of sanidine. Quaternary System, from the Solfatara, Pozzuoli, Naples, Italy.

This excellent and durable stone is extensively employed for coping for rough walls, for sea walls, and in immense blocks for coast defenses.

9200. **Trachyte**, which has undergone the incipient decomposing action of steam and acid vapors combined, such as are emitted from this quiescent volcano. Quaternary System, from the interior of the crater of the Solfatara, Pozzuoli, Naples, Italy.

9201. **Trachyte**, still further decomposed by the acid vapors and steam of the fumaroles. Quaternary System, from the hot vent or fumarole of the Pisciarelli, Solfatara, Pozzuoli, Naples, Italy.

9202. **Trachyte**, which has been perfectly bleached by the prolonged action of steam and vapors charged with sulphurous acid, which soon becomes sulphuric acid. Quaternary System, Solfatara, Pozzuoli, Naples, Italy.

The feldspar is already quite decomposed, the rock gradually becoming impure sulphate of alumina.

}. **Trachyte,** finally discolored, and converted into impure sulphate of alumina. Quaternary System, interior of the Solfatara, Pozzuoli, Naples, Italy.

The straw-colored tint is due to the presence of traces of sulphur compounds. This rock is quarried for making various chemical products, and when washed and decanted, as for kaolin, makes a useful substitute for lime whitewash.

Impure Sulphate of Alumina, resulting from the complete decomposition of trachyte. Quaternary System, from the acid hot vent of the Pisciarelli, Solfatara, Pozzuoli, Naples, Italy.

Sulphur, sublimated in the midst of pervious trachyte, which has been previously acted on by steam and sulphurous acid emanations. Quaternary System, interior of the crater of the Solfatara, Pozzuoli, Naples, Italy.

The color of the sulphur is bright citron yellow, and it has a peculiar luster.

Trachyte, partially decomposed by acid emanations, tinted straw-yellow by acid fumes. Quaternary System, from the hot vent, fumaroles of the Pisciarelli, Solfatara, Pozzuoli, Naples, Italy.

Trachyte, decomposed by acid vapors, the iron it contained converted into crystallized sulphate, in connection with other bases (halotrichite). Quaternary System, from the hot vent of the Pisciarelli, Solfatara, Pozzuoli, Naples, Italy.

Volcanic Tufa, containing pumice stone in small fragments, lapilli, and ashes, decomposed by acid vapors. Quaternary System, from the hot vent of the Pisciarelli, Solfatara, Pozzuoli, Naples, Italy.

The rocks of the Solfatara, from No. 9200 to No. 9208, are Quaternary, partly Pleistocene, partly recent, prehistoric, and historic, but the decomposition alluded to is exclusively contemporaneous.

Grayish-white Pumice Stone, found imbedded in the volcanic tufa of the extinct volcano of Arœrmy, described by Virgil. Quaternary System, from the close of the last great eruption of that volcano, extinct volcanoes of the Phlegrœan Fields of Campania, Pozzuoli, Naples, Italy.

Fine Ash-gray Pozzuolana, Pozzuoli, Naples, Italy.

Ash-gray Pozzuolana, Pozzuoli, Naples, Italy.

9212. **Ash-gray Pozzuolana,** Pozzuoli, Naples, Italy.

These three specimens, Nos. 9211, 9212, and 9213, are from three different extinct volcanoes of the Phlegrean Fields of Campania, Quaternary System.

9213. **Dark-gray Pozzuolana,** with small lapilli, from the Monte Nuevo, eruption of the year 1538 A.D., Pozzuoli, Naples, Italy.

Recent historic rocks, Quaternary System. This is a very good pozzuolana for hydraulic cement, as are also the previous three numbers.

9214. **Pale Ash-gray Trachyte,** of characteristic rough feel, containing a few crystals of sanidine. Recent volcanic rocks, from the Castiglione, from a lateral eruption of the Epomeo, Casamicciola, Ischia, Naples, Apennine Region, Italy.

A useful building and paving stone.

9215. **Ash-gray Trachyte,** of very rough feel, in which no crystals of sanidine are visible to the naked eye. Recent volcanic rocks, from the lateral eruption of the Epomeo, Castiglione, Casamicciola, Ischia, Naples, Apennine Region, Italy.

A good building stone.

9216. **Ash-gray Trachyte,** containing large crystals of sanidine. Recent volcanic rocks, Piejo, Barano, Ischia, Naples, Apennine Region, Italy.

One of the best and most durable kinds of trachyte, and an excellent stone for architectural purposes.

9217. **Iron-gray Scoriaceous Trachyte,** containing small imperfect crystals of glassy feldspar, or sanidine. Prehistoric volcanic rocks, from an eruption of a lateral cone of the Epomeo, Montagnone, Ischia, Naples, Apennine Region, Italy.

9218. **Dark Iron-gray Pumiceous Volcanic Scoria** (trachytic scoria), from the surface of a lava flow proceeding from a lateral vent of the Epomeo. Prehistoric volcanic rocks, Montagnone, Ischia, Naples, Italy.

9219. **Dark Iron-gray Trachytic Lava,** containing small crystals of sanidine. Recent historic rocks, from the lava flow of the Arso, which descended from the Cremate, a lateral cone of the Epomeo, A. D. 1301, Ischia, Naples, Apennine Region, Italy.

Employed as a useful building stone.

9220. **Iserine** (titaniferous iron). Recent contemporaneous deposits, from the beach of the Bay of Pozzuoli, Naples, Italy.

Derived from the disintegration of volcanic tufa and trachyte, and is washed up on the beach by the marine currents.

9221. **Fine Volcanic Sand,** consisting of fragmentary crystals of sanidine, augite, olivine, titaniferous iron, etc. Recent contemporaneous deposits, from the beach of the Gulf of Naples, Villa Delgiudice, Posillipo, Naples, Apennine Region, Italy.

This is very abundant, and is chiefly derived from Vesuvian lavas.

9222. **Very Fine Iron-gray Ashes,** which were projected from the summit of the cone of Vesuvius during the eruption of the year 1872, and fell to the depth of about an inch throughout the City of Naples, and thicker nearer the mountain, also at Posillipo, etc.

The specimen was collected at the time.

9223. **Fine-grained Magnetite.** Triassic System, from the marble rocks of the Valley of Versiglia, Stazzema, Lucca, Apennine Region, Italy.

9224. **Brownish-gray Marl.** Triassic System, accompanies the beds of sulphur ore which underlie it. Morcia Sulphur Mine, Lunano, Valle del Foglia, Pesaro and Urbino, Adriatic Slope, Apennine Region, Italy.

9225. **Impalpable Ash-gray Pozzuolana.** Quaternary System, Grotte di Sejano, Posillipo, Naples, Apennine Region, Italy.

From the extinct volcanoes of the Phlegrean Fields of Campania. This is a good material for making hydraulic cement.

9226. **Volcanic Ashes and Lapilli,** consisting of grayish-white pumice stone, fragments which were projected into the atmosphere at the close of the great eruption, A. D. 79, together with boiling water, which, falling on Pompeii, buried it to the depth of about 25 feet. Recent historic deposits, from Pompeii, Bosco-reale, Monte Somma, Naples, Apennine Region, Italy.

9227. **Crystalline Siderite.** Triassic System, Alfredo Iron Mine, Bovagno, Brescia, Rœtian Pre-Alps, Alpine Region, Italy.

Forms a bed in triassic schists, and is an excellent iron ore, especially for the manufacture of steel by the Bergamasc process.

9228. **Fat Lime,** Narni, Valley of the Tiber, **Umbria,** Apennine Region, Italy.

Made from Mesozoic limestone, and very largely used.

9229. **Best Slow-setting Hydraulic Lime,** Casale Monferrato, Alexandria, Italy.

9230. **Crushed, Burnt, Slow-setting Hydraulic Cement,** Casale Monferrato, Alexandria, Italy.

9231. **Commercial Slow-setting Hydraulic Cement,** Casale Monferrato, Alexandria, Italy.

9232. **Proof Tests of Slow-setting Hydraulic Cement,** half cement and half sand, Casale Monferrato, Alexandria, Italy.

9233. **Proof Tests of Slow-setting Hydraulic Cement,** pure cement, Casale Monferrato, Alexandria, Italy.

9234. **Unburned Gypsum,** roughly crushed, for agricultural purposes, San Giorgio di Casale, Alexandria, Italy.

9235. **Burned Gypsum,** coarsely ground, for agricultural purposes, San Giorgio di Casale, Alexandria, Italy.

9236. **Finely Ground Burnt Gypsum,** for manure, San Giorgio di Casale, Alexandria, Italy.

9237. **Impure Coarse Plaster of Paris,** for stucco and building purposes; see specimen of gypsum, No. 9172, San Giorgio di Casale, Alexandria, Italy.

9238. **Finest Pure White Plaster of Paris,** ground, for modeling purposes, made from the purest variety of largely crystallized selenite, San Giorgio di Casale, Alexandria, Italy.

Manufactured on a very large scale. This and the preceding four specimens are from the Upper Miocene series.

9239. **Grayish-blue Marble,** with brownish markings (breccia), origin unknown, from the ruins of Baiœ, Pozzuoli, Naples, Italy.

9240. **Yellowish-white Marble,** with pale reddish-yellow veinings and cementing matter (breccia), origin unknown, from the ruins of Baiœ, Pozzuoli, Naples, Italy.

9241. **Lamellar White Marble,** apparently Parian marble, from Paros, in Greece, from the ruins of Baiœ, Pozzuoli, Naples, Italy.

Widely dissimilar from the white marbles of Carrara and Seravezza, as can be seen at a glance.

9242. **Piece of Roman Pavement,** ruins of Baiœ, Pozzuoli, Naples, Italy.

It is formed of pieces of pumice stone, lapilli, and pozzuolana, and illustrates the strength of the white pozzuolana, having been made about eighteen centuries ago.

9243. **Piece of Ancient Roman Pavement,** consisting of fragments of white marble, broken in a somewhat square shape, and imbedded in pozzuolana, ruins of Baiœ, Pozzuoli, Naples, Italy.

To illustrate the strength of the white pozzuolana (hydraulic volcanic cement), and also the method employed by the Romans in making their better kinds of tesselated pavement for the interior of houses.

9244. **Six Specimens of Ancient Marble and Oppicalcites,** from the ruins of ancient Rome, Italy.

9245. **Piece of Ancient Roman Pavement,** of lozenge-shaped, compact, cream-colored marble, from the ruins of a Roman building at Rio nell Elba, Elba, Leghorn, Italy.

This building was close to the celebrated iron mine of Rio, which was worked by the Romans, probably the house of some official of the mine.

9246. **Wulfenite** (molybdate of lead), Eureka Consolidated Mine, Eureka, Nevada. W. A. Woodward.

9247. **Porcellophite,** a variety of serpentine, Fort Point, San Francisco, California. J. Z. Davis.

9248. **Calcite** (carbonate of lime), Ruby Hill Tunnel, Eureka, Nevada. H. K. Mitchell.

9249. **Vanadinite** (chloro-vanadate of lead), large and fine specimen, Arizona. J. Z. Davis.

9250. **Impressions of Leaves,** in volcanic mud, Mountain Tunnel Gravel Mine, Placer County, California. J. W. Powell.

9251. **Concretion or Petrifaction,** resembling a honeycomb, found inside a petrified tree in a hydraulic mine, 300 feet below the surface of the ground, at Iowa Hill, Placer County, California. Mrs. A. J. Stone.

9252. **Marble,** white, cut and polished specimen, near Victor, San Bernardino County, California. Victor Marble Company. June 1, 1887.

9253. **Marble,** blue, cut and polished specimen, near Victor, San Bernardino County, California. Victor Marble Company. June 1, 1887.

9254. **Marble,** mottled, cut and polished specimen near Victor, San Bernardino County, California. Victor Marble Company. June 1, 1887.

9255. **Building Stone,** dressed and carved, A. S[utro's] Quarry, near the Cliff House, San Francisco, Cali-fornia. Adolph Sutro. June 1, 1887.

9256. **Building Stone,** dressed specimen, San Fran[cisco] Quarry, near San Miguel, San Mateo Co[unty,] California. O. E. Brady. June 1, 1887.

9257. **Building Stone,** rough specimen, San Fran[cisco] Quarry, near San Miguel, San Mateo Co[unty,] California. O. E. Brady. June 1, 1887.

9258. **Sandstone,** rough specimen, Blacklock Qu[arry,] Curry County, Oregon. From the Comp[any.] June 1, 1887.

9259. **Limestone,** Greenhorn Creek, two miles sou[th of] Yreka, Siskiyou County, California. Proprie[tors] Yreka "Journal." June 1, 1887.

9260. **Sandstone,** dressed cube, from quarry two m[iles] from East Los Angeles, Los Angeles Cou[nty,] California. Southern Ledge Stone Comp[any.] June 1, 1887.

9261. **Sandstone,** dressed specimen, quarry at San Ra[fael,] Marin County, California. John W. C. Max[well,] June 1, 1887.

9262. **Sandstone,** dressed specimen, quarry two m[iles] north of Yreka, Siskiyou County, Califor[nia.] Proprietors Yreka "Journal." June 1, 1887.

9263. **Sandstone,** light-colored dressed specimen, H[enley,] ley, Siskiyou County, California. Robert Ra[ndge-] ley. June 1, 1887.

9264. **Sandstone**, dark-colored dressed specimen, Henley, Siskiyou County, California. Robert Rangeley, June 1, 1887.

9265. **Sandstone**, dressed cube, quarry at Niles, Alameda County, California. Captain J. D. Farwell. June 1, 1887.

9266. **Sandstone**, dressed specimen, quarry five miles from Suisun, Solano County, California. C. P. Reeves. June 1, 1887.

9267. **Sandstone**, dressed specimen, "lavender brown," Tehachipa, Kern County, California. From the Tehachipa Building Stone Company. June 1, 1887.

9268. **Sandstone**, dressed specimen, "Nile green," Tehachipa, Kern County, California. From the Tehachipa Building Stone Company. June 1, 1887.

9269. **Sandstone**, dressed specimen, "yellow," Tehachipa, Kern County, California. From the Tehachipa Building Stone Company. June 1, 1887.

9270. **Sandstone**, dressed specimen, "blue," Tehachipa, Kern County, California. From the Tehachipa Building Stone Company. June 1, 1887.

9271. **Building Stone**, dressed specimen, Tehachipa, Kern County, California. From the Tehachipa Building Stone Company. June 1, 1887.

9272. **Marble**, gray, cut and polished, Tehachipa, Kern County, California. From the Tehachipa Building Stone Company. June 1, 1887.

9273. **Tufa**, of volcanic origin, used as building stone, Diamond Springs, El Dorado County, California. D. W. C. Morgan. June 1, 1887.

9274. **Wall Rock**, hanging wall, 950-foot level of the Kennedy Mine, Amador County, California. F. F. Thomas. June 2, 1887.

When in place the smooth side is against the ore.

9275. **Gold Quartz**, showing free gold, 950-foot level of the Kennedy Mine, Amador County, California. F. F. Thomas. June 2, 1887.

9276. **Gouge,** between ore and foot wall, 950-foot level of the Kennedy Mine, Amador County, California. F. F. Thomas. June 2, 1887.

9277. **Wall Rock,** foot wall and slate, Kennedy Mine, Amador County, California. F. F. Thomas. June 2, 1887.

9278. **Obsidian,** red, Thurston Lake, Lake County, California. Henry S. Durden. June 14, 1887.

9279. **Obsidian,** gray, road to Sulphur Bank, Lake County, California. Henry S. Durden. June 14, 1887.

9280. **Obsidian,** decomposed, Thurston Lake, Lake County, California. Henry S. Durden. June 14, 1887.

9281. **Sulphur,** native, in crystals, three specimens, Sulphur Bank, Lake County, California. Henry S. Durden. June 14, 1887.

9282. **Hyalite,** a variety of opal, in matrix of basaltic lava, Middletown, Lake County, California. Henry S. Durden. June 14, 1887.

9283. **Semi-opal,** Sulphur Bank, Lake County, California. Henry S. Durden. June 14, 1887.

9284. **Fiorite,** opal-sinter, Sulphur Bank, Lake County, California. Henry S. Durden. June 14, 1887.

9285. **Lava,** near Sulphur Bank, Lake County, California. Henry S. Durden. June 14, 1887.

9286. **Silver Ore** (argentiferous galena), American Union Mine, Darwin, Inyo County, California. W. V. Cronise. June 15, 1887.

9287. **Chromic Iron,** Pardee's Ranch, near Middletown, Lake County, California. L. Evans. June 15, 1887.

9288. **Celestite** (sulphate of strontium), on Colemanite, Calico, San Bernardino County, California. June 15, 1887.

9289. **Clay**, of fine quality, showing only small traces of iron and magnesia, from a vein 20 feet wide, 20 miles west of Sonora, Tuolumne County, California. Louis Blanding. June 15, 1887.

9290. **Gold Quartz**, Mount St. Helena, Napa County, California. Daniel Patten. June 18, 1887.

9291. **Slate**, seven samples of roofing slate, from a quarry near Placerville, El Dorado County, California. Reeg & Landecker. June 18, 1887.

9292. **Silver Ore** (argentiferous galena), two specimens, Daly Mine, Utah. R. C. Chambers. June 18, 1887.

9293. **Silver Ore** (argentiferous galena), two specimens, 400-foot level, Daly Mine, Utah. R. C. Chambers. June 18, 1887.

9294. **Silver Ore**, 400-foot level, Daly Mine, Utah. R. C. Chambers. June 18, 1887.

9295. **Silver Ore** (argentiferous galena), 500-foot level, Daly Mine, Utah. R. C. Chambers. June 18, 1887.

9296. **Silver Ore**, two specimens, 500-foot level, Daly Mine, Utah. R. C. Chambers. June 18, 1887.

9297. **Silver Ore**, two specimens, 600-foot level, Daly Mine, Utah. R. C. Chambers. June 18, 1887.

9298. **Silver Ore**, two specimens, Central Tunnel, Daly Mine, Utah. R. C. Chambers. June 18, 1887.

9299. **Silver Ore**, three specimens, 700-foot level, Daly Mine, Utah. R. C. Chambers. June 18, 1887.

9300. **Silver Ore**, two specimens, 800-foot level, Daly Mine, Utah. R. C. Chambers. June 18, 1887.

9301. **Fragment of a Meteorite**, which fell in France. Wm. D. Johnston, M.D. June 20, 1887.

This interesting specimen contains metallic iron in very small nodules, schreibersite (phosphide of iron and nickel), silica, sulphur, and traces of nickel, chromium, and alumina.

9302. **Iron Ore**, Hematite, Blacklock, Curry County, Oregon. John Switzer. June 20, 1887.

9303. **Gypsum** (sulphate of lime), in fine crystals, San Bernardino County, California. F. E. Monteverde. June 20, 1887.

9304. **Chalcedony**, purple, with agate, San Bernardino County, California. F. E. Monteverde. June 20, 1887.

9305. **Trachytic Porphyry**, Thurston Lake, Lake County, California. H. S. Durden. June 20, 1887.

9306. **Auriferous Iron Pyrites** (sulphide of iron), Lockwood Mine, West Point District, Calaveras County, California. George L. Brown. June 20, 1887.

9307. **Indian Mortar**, Three Rivers, Tulare County, California. M. Braverman. June 20, 1887.

9308. **Indian Mortar**, Section 8, Township 19, Range 24, Tulare County, California. M. Braverman. June 20, 1887.

9309. **Indian Implement**, found on the eastern border of Tulare Lake, Tulare County, California. M. Braverman. June 20, 1887.

9310. **Croppings**, Alhambra Mine, Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9311. **Wall Rock**, hanging wall of Alhambra Mine, Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9312. **Gold Quartz**, vein 3½ feet wide, Alhambra Mine, Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9313. **Wall Rock**, foot wall, Alhambra Mine, Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9314. **Vein Matter at Surface**, Alhambra Mine, Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9315. **Gold Quartz**, showing free gold, Alhambra Mine, Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9316. **Pyrites,** from foot wall, Alhambra Mine, Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9317. **Auriferous Pyrites,** Alhambra Mine, Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9318. **Gold Quartz,** Holcombe Mine, north extension of "Big Blue Ledge," Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9319. **Gold Quartz,** "Big Blue Ledge," Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9320. **Gold Quartz,** East Alhambra Mine, Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9321. **Gold Quartz,** Red Hill Mine, Kelsey District, 2½ miles west of Alhambra Mine, Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9322. **Gold Quartz,** Darling Mine, three miles northeast of Holcombe Mine, Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9323. **Iron Ore,** ore body 60 feet wide, Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9324. **Asbestus,** Kelsey District, El Dorado County, California. S. E. Holcombe. June 21, 1887.

9325. **Soapstone,** Steatite, Kelsey District, El Dorado County, California. June 21, 1887.

9326. **Gypsum,** Selenite (sulphate of lime), New Mexico, near the United States boundary line. Frank M. Bacon. June 21, 1887.

9327. **Gold Quartz,** showing free gold, Nevada County Mine, Nevada County, California. Melville Attwood. June 22, 1887.

9328. **Colonial Currency** of New Jersey, issued March 25, 1776, for the sum of 12 shillings. J. S. Weiss. June 22, 1887.

9329. **Teeth of Raia Squalus,** found on the beach at Trinidad, Humboldt County, California. J. A. Davis. June 22, 1887.

This fish is said to shed its teeth periodically.

9330. **Tail of Armadillo,** brought from Mexico at the time of the Mexican war. N. Winants. June 22, 1887.

9331. **Aplome,** a variety of Andradite (magnesian iron-lime garnet), near Visalia, Tulare County, California. M. Braverman. June 23, 1887.

9332. **Topazolite,** a variety of Andradite (lime-iron garnet), Tulare County, California. M. Braverman. June 23, 1887.

9333. **Feldspar Crystal** (orthoclase), incrusted with crystals of mica (muscovite) and quartz, Three Rivers, Tulare County, California. M. Braverman. June 23, 1887.

9334. **Talc** (radiated), on massive talc, Tulare County, California. M. Braverman. June 23, 1887.

9335. **Manganese Ore** (earthy), with micaceous iron, Section 15, Township 17, Range 28 east, Tulare County, California. M. Braverman. June 23, 1887.

9336. **Garnets,** in calcite, San Ramon, Fresno County, California. Wm. D. Johnston, M.D. June 23, 1887.

9337. **Steatite,** French chalk, near Visalia, Tulare County, California. C. C. Harlan. June 24, 1887.

9338. **Manganese Ore,** Pyrolusite, Sixes River, Curry County, Oregon. John Switzer. June 25, 1887.

9339. **Iron Ore,** Hematite, Sixes River, Curry County, Oregon. John Switzer. June 25, 1887.

Wood, disintegrated, and iron spikes and bolt, broken off by the explosion of dynamite on the schooner Parallel, Sunday, January 16, 1887. W. McKendree Heath. June 25, 1887.

Wall Rock, hanging wall of Venus Mine, Mt. St. Helena, Napa County, California. Daniel Patten. June 28, 1887.

Wall Rock, foot wall of Venus Mine, Mt. St. Helena, Napa County, California. Daniel Patten. June 28, 1887.

Photograph, showing a number of examples of the effects of obstructions in gun-barrels, with explanatory letterpress. Wm. McKendree Heath. June 29, 1887.

Calcite, variety of Nailhead Spar (carbonate of lime), large specimen, from the Ruby Hill Tunnel, Eureka, Nevada. Henry K. Mitchell. June 30, 1887.

Taken from a point 1,280 feet from the mouth of the tunnel, and 900 feet below the surface.

Platinum, Granite Creek, Similkameen River, British Columbia. From the Provincial Secretary's Department. July 1, 1887.

Analysis, by G. C. Hoffmann, Chemist to the Geological Survey of Canada:

Platinum	72.07
Palladium	.19
Rhodium	2.57
Iridium	1.14
Osmium	
Copper	3.39
Iron	8.59
Osmiridium	10.51
Gangue (imbedded)	1.69
	100.15

Present market value, about $3 30 per ounce.

Conglomerate, composed of sand, mica, and recent shells (tournatella, nassa, etc.), Goose Lake, Modoc County, California. Hon. John Daggett. July 1, 1887.

United States Fractional Currency, value, 50 cents, Act of March, 1863. R. B. Gibb. July 2, 1887.

Wood Specimen, remarkable growth of live oak, Newhall, Los Angeles County, California. B. R. Boynton. July 2, 1887.

9349. **Borickite**, variety Delvauxene (phosphate of Iron), Northern Spy Mine, Utah. J. W. Hanson. July 6, 1887.

9350. **Gold Quartz**, showing free gold, Carga Mucha cha Mine, San Diego County, California. Wm. Sublette. July 12, 1887.

9351. **Eurypterus**, Upper Silurian Fossil, Lower Helderberg period, from the Buffalo Cement Company's Quarries, Buffalo, New York. Presented by L. J. Bennett, President. July 13, 1887.

9352. **Eurypterus**, Upper Silurian Fossil, Lower Helderberg period, from the Buffalo Cement Company's Quarries, Buffalo, New York. Presented by L. J. Bennett, President. July 13, 1887.

9353. **Eurypterus**, Upper Silurian Fossil, Lower Helderberg period, from the Buffalo Cement Company's Quarries, Buffalo, New York. Presented by L. J. Bennett, President. July 13, 1887.

9354. **Pterygotus**, Upper Silurian Fossil, Lower Helderberg period, from the Buffalo Cement Company's Quarries, Buffalo, New York. Presented by L. J. Bennett, President. July 13, 1887.

9355. **Pterygotus**, Upper Silurian Fossil, Lower Helderberg period, from the Buffalo Cement Company's Quarries, Buffalo, New York. Presented by L. J. Bennett, President. July 13, 1887.

9356. **Seaweed**, Upper Silurian Fossil, Lower Helderberg period, from the Buffalo Cement Company's Quarries, Buffalo, New York. Presented by L. J. Bennett, President. July 13, 1887.

9357. **Section of Core of Diamond Drill**, Gypsum, from the Buffalo Cement Company's Quarries, Buffalo, New York. Presented by L. J. Bennett, President. July 13, 1887.

9358. **Section of Core of Diamond Drill**, Cement Rock, from the Buffalo Cement Company's Quarries, Buffalo, New York. Presented by L. J. Bennett, President. July 13, 1887.

Quartz, on Cement Rock, or "Water Lime," source of the silicious portion of the cement, from the Buffalo Cement Company's Quarries, Buffalo, New York. Presented by L. J. Bennett, President. July 13, 1887.

Gypsum, showing the solvent action of water thereon, from the Buffalo Cement Company's Quarries, Buffalo, New York. Presented by L. J. Bennett, President. July 13, 1887.

Cement Rock, or "Water Lime," a calcareous rock, largely employed in the manufacture of cement, from the Buffalo Cement Company's Quarries, Buffalo, New York. Presented by L. J. Bennett, President. July 13, 1887.

Cervantite, Antimony Ochre (oxide of antimony), Knappenberg, Austria. July 26, 1887.

Senarmontite (teroxide of antimony), Constantine, Algiers. July 26, 1887.

Berthierite (sulphantimonide of iron), Pont Gibaud, France. July 26, 1887.

Romeite (antimonate of calcium), St. Marcel, Piedmont, Italy. July 26, 1887.

Valentinite (teroxide of antimony), Przibram, Bohemia. July 26, 1887.

Aurichalcite (hydrous carbonate of zinc and copper), Klein Kogl, Brixen, Tyrol. July 26, 1887.

Stannite (sulphide of tin, copper, iron, and zinc), St. Ives, Cornwall, England. July 26, 1887.

Dufrenoysite (sulpharsenide of lead), Binnenthal, Switzerland. July 26, 1887.

Stolzite (tungstate of lead), Zimwald, Bohemia. July 26, 1887.

Nagyagite (sulpho-telluride of lead and gold), Nagy Ag, Hungary. July 26, 1887.

Sartorite (sulpharsenide of lead), Binnenthal, Switzerland. July 26, 1887.

9373. **Phosgenite** (carbonate and chloride of lead), Cromford, Matlock, Derbyshire, England. July 26, 1887.

9374. **Plagionite** (sulphantimonide of lead), Arnsberg, Westphalia, Germany. July 26, 1887.

9375. **Crocoite** (chromate of lead), Berezov, Siberia. July 26, 1887.

9376. **Mendipite** (oxychloride of lead), Rosenbeck, Brilon, Westphalia, Germany. July 26, 1887.

9377. **Pyromorphite** (phosphate and chloride of lead), Friedrichshagen, Ems, Germany. July 26, 1887.

9378. **Meneghinite** (sulphantimonide of lead), Bottino, Tuscany, Italy. July 26, 1887.

9379. **Auripigmentum** (sulphide of arsenic), Tajowa, Hungary. July 26, 1887.

9380. **Tetradymite** (telluride of bismuth), Oravicza, Bannat, Hungary. July 26, 1887.

9381. **Eulytite** (silicate of bismuth), Schneeberg, Saxony. July 26, 1887.

9382. **Aikinite** (sulphide of bismuth, lead, and copper), Berezov, Siberia. July 26, 1887.

9383. **Bismutite** (hydrated carbonate of bismuth), Schlaggenwald, Bohemia. July 26, 1887.

9384. **Emplectite** (sulphide of bismuth and copper), in quartz, Schwarzenberg, Antonsthal, Saxony. July 26, 1887.

9385. **Kermesite** (oxysulphide of antimony), and Valentinite, Allemont, France. July 26, 1887.

9386. **Wittichenite** (sulphide of bismuth and copper), Wittichen, Baden, Germany. July 26, 1887.

9387. **Cobaltite** (sulpharsenide of cobalt), Tunaberg, Sweden. July 26, 1887.

9388. **Smaltite** (arsenide of cobalt and nickel), Schneeberg, Saxony. July 26, 1887.

9389. **Linnœite** (sulphide of cobalt), Müsen, Prussia. July 26, 1887.

9390. **Skutterudite** (arsenide of cobalt), Skutterud, Norway. July 26, 1887.

9391. **Rittingerite** (sulphantimonide of silver), Joachimsthal, Bohemia. July 26, 1887.

9392. **Dyscrasite** (antimonide of silver), St. Andreasberg, Saxony. July 26, 1887.

9393. **Freieslebenite** (sulphantimonide of silver and lead), Przibram, Bohemia. July 26, 1887.

9394. **Triphyllite** (phosphate of manganese, iron, and lithium), Huhner Kobl, Rabenstein, Bavaria. July 26, 1887.

9395. **Manganite** (hydrous oxide of manganese), Ilefeld, Hartz, Germany. July 26, 1887.

9396. **Hausmannite** (protosesquioxide of manganese), and **Braunite** (oxide and silicate of manganese), Ilmenau, Thuringia, Germany. July 26, 1887.

9397. **Braunite** (oxide and silicate of manganese), Ilmenau, Thuringia, Germany. July 26, 1887.

9398. **Alabandite** (sulphide of manganese), and **Manganspath** (carbonate of manganese), Karacs, Transylvania, Hungary. July 26, 1887.

9399. **Grünanite** (sulphide of nickel and bismuth), Grünau, Sayn Altenkirchen, Prussia. July 26, 1887.

9400. **Breithauptite** (antimonide of nickel), St. Andreasberg, Saxony. July 26, 1887.

9401. **Ullmannite** (sulphantimonide of nickel), Monte Marba, Sardinia, Italy. July 26, 1887.

9402. **Niccolite** (sulphide of nickel), Sangerhausen, Saxony. July 26, 1887.

9403. **Chloanthite**, variety of Smaltite (arsenide of cobalt and nickel), Hüttenberg, Austria. July 26, 1887.

9404. **Gersdorffite** (sulpho-arsenide of nickel), Albertine Mine, Harzgerode, Germany. July 26, 1887.

9405. **Bismuth**, native, Daniel Mine, Schneeberg, Saxony. July 26, 1887.

9406. **Arsenic**, native, St. Andreasberg, Hartz, Saxony. July 26, 1887.

9407. **Allemontite** (arsenide of antimony), Przibram, Bohemia. July 26, 1887.

9408. **Antimony**, native, Przibram, Bohemia. July 26, 1887.

9409. **Cadmium Blende**, Greenockite (sulphide of cadmium), Przibram, Bohemia. July 26, 1887.

9410. **Greenockite** (sulphide of cadmium), Granby, Massachusetts. July 26, 1887.

9411. **Greenockite** (sulphide of cadmium), Przibram, Bohemia. July 26, 1887.

9412. **Binnite** (sulpharsenide of copper), Imfeld, Binnenthal, Switzerland. July 26, 1887.

9413. **Libethenite** (hydrous phosphate of copper), Libethen, Hungary. July 26, 1887.

9414. **Brochantite** (hydrous sulphate of copper), Retzbanya, Nassau, Germany. July 26, 1887.

9415. **Covellite** (sulphide of copper), Wissen, Germany. July 26, 1887.

9416. **Euchroite** (hydrous phosphate of copper), Libethen, Hungary. July 26, 1887.

9417. **Tennantite** (sulpharsenide of copper), Cornwall, England. July 26, 1887.

9418. **Torbernite** (hydrous phosphate of uranium and copper), Wheal Basset Mine, Cornwall, England. July 26, 1887.

9419. **Schröckeringite** (hydrous carbonate of uranium), and **Eliasite** (hydrous oxide of uranium, iron, and lead), Joachimsthal, Bohemia. July 26, 1887.

9420. **Zippeite** (hydrous sulphate of uranium), Joachimsthal, Bohemia. July 26, 1887.

9421. **Voglite** (carbonate of uranium, calcium, and copper), Joachimsthal, Bohemia. July 26, 1887.

9422. **Liebigite,** on Pitchblende (hydrous carbonate of uranium and calcium), Schneeberg, Saxony. July 26, 1887.

9423. **Uraninite** (oxide of uranium), Joachimsthal, Bohemia. July 26, 1887.

9424. **Autunite** (phosphate of uranium and calcium), Redruth, Cornwall, England. July 26, 1887.

9425. **Lepidomelane** (silicate of aluminum, iron, and potassium), with Cancrinite and Elœolite, Litchfield, Maine. July 26, 1887.

9426. **Wolframite** (tungstate of manganese and iron), Schlaggenwald, Bohemia. July 26, 1887.

9427. **Wolframite** (tungstate of manganese and iron), Zinnwald, Bohemia. July 26, 1887.

9428. **Strontianite** (carbonate of strontium), Drensteinfurt, Westphalia, Germany. July 26, 1887.

9429. **Witherite** (carbonate of barium), Hexham, England. July 26, 1887.

9430. **Cat's Eye** (variety of quartz), Ceylon, India. July 26, 1887.

9431. **Cat's Eye Quartz,** Hof, Bavaria. July 26, 1887.

9432. **Sapphire Quartz,** Golling, Austria. July 26, 1887.

9433. **Acmite** (silicate of iron and sodium), Eker, Norway. July 26, 1887.

9434. **Haüynite** (silicate of aluminum and sodium, and sulphate of calcium), Monte, Somma, Vesuvius, Naples, Italy. July 26, 1887.

9435. **Nosite** (silicate and sulphate of aluminum and sodium), Lake of Laach, near Andernach, Germany. July 26, 1887.

9436. **Lapis Lazuli** (silicate of aluminum and calcium and sulphide of sodium), Bucharei, Siberia. July 26, 1887.

9437. **Harmotome** (hydrous silicate of aluminum, barium, and potassium), Strontian, Scotland. July 26, 1887.

9438. **Chabazite** (hydrous silicate of aluminum, calcium, and potassium), Aussig, Bohemia. July 26, 1887.

9439. **Harmotome** (hydrous silicate of aluminum, barium, and potassium), Oberstein, Germany. July 26, 1887.

9440. **Analcite** (hydrous silicate of sodium and aluminum), Seiser Alp, Tyrol. July 26, 1887.

9441. **Heulandite** (hydrous silicate of aluminum and calcium), Fassathal, Tyrol. July 26, 1887.

9442. **Hyalophane** (silicate of aluminum, barium, and potassium), Binnenthal, Switzerland. July 26, 1887.

9443. **Adularia**, Potash Feldspar (orthoclase), Scopia, Turkey. July 26, 1887.

9444. **Tantalite** (tantalate of iron), Evigtok, Greenland. July 26, 1887.

9445. **Euxenite** (columbate of titanium, uranium, and yttrium), Tromoen, Arendal, Norway. July 26, 1887.

9446. **Cerite** (hydrous silicate of cerium, lanthanum, and didimyum), Riddarhyttan, Sweden. July 26, 1887.

9447. **Göthite** (hydrated sesquioxide of iron), Siegen, Nassau, Germany. July 26, 1887.

9448. **Göthite** (hydrated sesquioxide of iron), Lostwithiel, Cornwall, England. July 26, 1887.

9449. **Cacoxenite** (hydrous phosphate of iron), Trenis, Bohemia. July 26, 1887.

9450. **Scorodite** (hydrous arsenate of iron), Graul, Schwarzenberg, Saxony. July 26, 1887.

9451. **Ilmenite,** Menaccanite (oxide of titanium and iron), Krageröe, Norway. July 26, 1887.

9452. **Diatomaceous Earth,** San Luis Obispo County, California. E. Martin Smith. July 27, 1887.

9453. **Silicified Rhizoma** (root stock), of a plant, Santa Rosa, Sonoma County, California. A. W. Dana. July 27, 1887.

9454. **Silver Ore,** Mount Gibbs Mines, head of Bloody Cañon, Mono County, California. Professor Wm. P. Blake. July 28, 1887.

9455. **Silica,** massive, Ulster County, New York. F. H. Hausman. July 28, 1887.

Specially adapted and largely used for making the best qualities of glass. Three specimens; in the natural state, calcined and pulverized.

9456. **Gold Quartz,** very rich in free gold, Nevada City Mine, Nevada County, California. Melville Attwood. August 1, 1887.

9457. **Building Stone,** Sandstone, from surface croppings, Brittan's Ranch, San Mateo County, California. W. G. Brittan. August 1, 1887.

9458. **Building Stone,** Sandstone, from Benicia, Solano County, California. August 1, 1887.

This specimen was thirty years in the front of the building, No. 405 Montgomery Street, San Francisco.

9459. **Chromic Iron,** Pope Valley, Napa County, California. W. H. Lidell. August 1, 1887.

9460. **Silver Ore,** with Copper, fifteen miles east from Visalia, Tulare County, California. M. Braverman. August 1, 1887.

9461. **Calcite** (carbonate of lime), on Garnet Rock, with Erubescite and Chalcocite, seven miles northeast from Camp Badger, Tulare County, California. M. Braverman. August 1, 1887.

9462. **Graphite,** Plumbago, from near Eureka, Humboldt County, California. Thomas Dickinson. August 1, 1887.

9463. **Model of the Black Diamond Coal Mine**, Mount Diablo, Contra Costa County, California, showing croppings and underlie of the coal beds. William Leviston. August 1, 1887.

9464. **Model of the Black Diamond Coal Mine**, Mount Diablo, Contra Costa County, California, vertical section. William Leviston. August 1, 1887.

9465. **Polybasite** (sulphantimonide of silver), with Pyrargyrite and Crystallized Sphalerite, and Iron Pyrites, North Belle Isle Mine, Tuscarora District, Elko County, Nevada. G. W. Grayson. August 2, 1887.

9466. **Gold**, containing a large proportion of silver, deposited on quartzose rock in fine rosettes, from a claim adjoining the Clyde Mine, Sulphur Creek, Colusa County, California. J. M. Epperson. August 2, 1887.

9467. **Chrysotile**, a variety of Serpentine, Tuolumne County, California. August 2, 1887.

9468. **Coin**, ancient Chinese. S. Kaneks. August 2, 1887.

9469. **Coin**, modern Japanese; value, one cent. N. Sato. August 2, 1887.

9470. **Coin**, modern Japanese; value, two cents. N. Sato. August 2, 1887.

9471. **Lead Pipe**, gnawed open by rats to obtain water, house corner of Davis and Broadway Streets, San Francisco. W. S. Keyes. August 3, 1887.

9472. **Wulfenite** (molybdate of lead), large specimen, Arizona. J. Z. Davis. August 5, 1887.

9473. **Eggs** of California birds, thirty-three specimens. William Ellenwood. August 5, 1887.

9474. **Ampelis Cedorum**, Cedar Bird. J. Z. Davis. August 6, 1887.

9475. **Geococcyx Californianus**, Road Runner, California. H. G. Hanks. August 6, 1887.

9476. **Auriferous Gravel,** Bonanza Drift Mine, Mokelumne Hill, Calaveras County, California. S. Foorman. August 10, 1887.

9477. **Gold,** from the gravel, No. 9476. S. Foorman. August 10, 1887.

9478. **Auriferous Gravel,** Happy Valley Blue Gravel Hydraulic Mine, Mokelumne Hill, Calaveras County, California. S. Foorman. August 10, 1887.

9479. **Gold,** from the gravel, No. 9478. S. Foorman. August 10, 1887.

9480. **Galena** (sulphide of lead), super-sulphuretted, Montana. W. H. Smith. August 11, 1887.

9481. **Pebbles,** beach at Cape Blanco, Oregon. J. Switzer. August 11, 1887.

9482. **Gold Quartz,** Arizona Mine, South Fork District, Igo, Shasta County, California. J. Switzer. August 11, 1887.

9483. **Cuttle Fish,** Sepia Officinalis. Wm. D. Johnston, M.D. August 11, 1887.

9484. **Fossil Vertebra** of a Cetacean, found on a bluff three miles west of Paso Robles, San Luis Obispo County, California. G. Spurrier. August 11, 1887.

9485. **Gold Quartz,** from "The Greek's Reef," Cawaral Gold Field, Rockhampton, Queensland. H. Williams. August 15, 1887.

9486. **Auriferous Gossan,** a partially decomposed ferruginous rock, Mount Morgan Gold Mine, Crocodile Gold Field, Rockhampton, Queensland. H. Williams. August 15, 1887.

9487. **Yak Tail,** Poëphagus Grunniens, Central Asia. Wm. D. Johnston, M.D. August 20, 1887.

9488. **Silver Ore,** Lady Franklin Mine, Black Range District, Kingston, New Mexico. B. R. Taylor. August 20, 1887.

9489. **Rock Specimen,** inclosing rock of No. 9488, Lady Franklin Mine, Black Range District, Kingston, New Mexico. B. R. Taylor. August 20, 1887.

9490. **Kaolin,** six miles from Sonoma City, Sonoma County, California. Webb N. Pierce. August 20, 1887.

9491. **Magnetite** (protosesquioxide of iron), Forest Hill, Placer County, California. J. P. Kates. August 20, 1887.

9492. **Manganese Ore,** Pyrolusite, Mount St. Helena, Napa County, California. F. H. Hausman. August 20, 1887.

9493. **Calcite** (carbonate of lime), 3½ miles southeast from Yreka, Siskiyou County, California. James T. Skinner. August 20, 1887.

9494. **Mera Wood,** Tahiti. J. M. Kelley. August 23, 1887.

9495. **Watch,** left by the engineer of the hoisting engine in the north winze, 1500 foot level, Consolidated Virginia and California Mine, Virginia, Nevada, February, 1887, when the mine caught fire, and recovered in August of the same year. Wm. H. Patton.

Shows the action of the carbonic acid gas injected into the mine to extinguish the fire.

9496. **Magnesite** (carbonate of magnesia), two miles east of Madrone Station, Southern Pacific Railroad, on Coyote Creek, Santa Clara County, California. L. C. Kellogg. August 25, 1887.

9497. **Argentiferous Lead Ore,** "Carbonate Ore," Morning Star Mine, Leadville, Colorado. Jay G. Kelley. August 26, 1887.

9498. **Boracic Acid,** Tuscany, Italy. E. C. Fleming. August 26, 1887.

9499. **Borate of Lime,** variety of Pandermite, Susurlu, Asia Minor. E. C. Fleming. August 26, 1887.

9500. **Rock Specimen,** decomposed feldspathic rock, country rock of Mount Morgan Gold Mine, Crocodile Gold Field, Rockhampton, Queensland. H. Williams. August 15, 1887.

9501. **Gold Quartz,** Excelsior Mine, Volcano, Amador County, California. N. G. Young. September 2, 1887.

9502. **Gold Quartz,** with free gold, Cruikshank Mine, Los Burros District, seventy-five miles from Monterey, Monterey County, California. Hon. B. V. Sargent. September 5, 1887.

9503. **Quartz,** waterworn, containing ten per cent of bituminous matter, beach between San Pedro and Point Firmin, Los Angeles County, California. September 5, 1887.

9504. **Cannon Ball,** found imbedded in an adobe wall, part of the old Mission residence, at San Buenaventura, California. The ball was fired during the conflict between the troops of General Castro and the garrison of the Mission under General Pico. It was recovered in tearing down the building, in July, 1887. J. C. Valencia.

9505. **Piece of the Old Charter Oak,** at Hartford, Connecticut, cut from the tree by the donor, in the winter of 1856, the day after it was blown down. W. A. Goodyear. September 5, 1887.

9506. **Garnet,** Hermosillo District, Sonora, Mexico. E. Wolleb. September 6, 1887.

9507. **Silicified Wood,** the bark altered to semi-opal, "Petrified Forest," near Calistoga, Napa County, California. A. H. Wentz. September 6, 1887.

9508. **Platin-iridium,** Gold Bluff, Humboldt County, California. Dr. Powell. September 8, 1887.

9509. **Spinel** (oxide of aluminum and magnesium), Gold Bluff, Humboldt County, California. Dr. Powell. September 8, 1887.

9510. **Lignite**, Eureka, Humboldt County, California. September 12, 1887.

Utilized as fuel for burning brick.

9511. **Lignite**, Mad River, Humboldt County, California. September 12, 1887.

9512. **Fossil Shells**, Jacoby Creek, Humboldt County, California. September 12, 1887.

9513. **Sandstone**, Poison Camp, Trinity County, California. September 12, 1887.

9514. **Limestone**, two varieties (lower ledge), Jacoby Creek, Humboldt County, California. September 12, 1887.

9515. **Limestone** (upper ledge), Jacoby Creek, Humboldt County, California. September 12, 1887.

9516. **Sandstone**, south side Jacoby Creek, Humboldt County, California. September 12, 1887.

9517. **Sandstone**, north side Jacoby Creek, Humboldt County, California. September 12, 1887.

9518. **Lignite**, Jacoby Creek, Humboldt County, California. September 12, 1887.

9519. **Lignite** (on the hill), east branch of the South Fork of Eel River, Humboldt County, California. September 12, 1887.

9520. **Lignite**, Poison Camp, Trinity County, California. September 12, 1887.

9521. **Sand impregnated with Petroleum and Asphaltum** (upper ledge), O'Neal Ranch, two miles northwest from Point Arena, Mendocino County, California. September 12, 1887.

9522. **Sand impregnated with Petroleum and Asphaltum** (upper ledge), O'Neal Ranch, two miles northwest from Point Arena, Mendocino County, California. September 12, 1887.

This sample contains much less bituminous matter than No. 9521, from the same locality.

9523. **Sand impregnated with Petroleum and Asphaltum** (lower ledge, nine feet thick), O'Neal Ranch, two miles northwest from Point Arena, Mendocino County, California. September 12, 1887.

9524. **Sandstone** (upper ledge), O'Neal Ranch, two miles northwest from Point Arena, Mendocino County, California. September 12, 1887.

Contains only a small amount of bitumen.

9525. **Sandstone** (upper ledge), O'Neal Ranch, two miles northwest from Point Arena, Mendocino County, California. September 12, 1887.

This layer is hard and contains no bitumen.

9526. **Shale,** mistaken for coal, East Branch of the South Fork of Eel River, Humboldt County, California. T. 4 S., R. 4 E., Section 34. September 12, 1887.

9527. **Coal,** four miles south from Little Lake, Mendocino County, California. September 12, 1887.

9528. **Coal,** Ackerman Creek, three miles from Ukiah, Mendocino County, California. September 12, 1887.

9529. **Coal,** one mile north of Garberville, on South Fork of Eel River, Humboldt County, California. September 12, 1887.

9530. **Coal,** one mile south of Eel River, on the ridge, discovered in August, 1887, Mendocino County, California. September 12, 1887.

9531. **Coal,** East Branch of the South Fork of Eel River, on the Ray Ranch, T. 4 S., R. 4 E., Section 34, Humboldt County, California. September 12, 1887.

9532. **Coal,** Eel River, Mendocino County, California. September 12, 1887.

9533. **Sand impregnated with Petroleum and Asphaltum,** Harbor at Point Arena, Mendocino County, California. September 12, 1887.

Deposit twenty feet thick.

9534. **Tar**, of mineral origin, from a spring at Point Arena, Mendocino County, California. September 12, 1887.

9535. **Autunite** (phosphate of uranium and calcium), North Star Mine, Ruby Basin, Lawrence County, Dakota. E. A. Weinberg. September 13, 1887.

9536. **Torbernite** (hydrous phosphate of copper and uranium), North Star Mine, Ruby Basin, Lawrence County, Dakota. E. A. Weinberg. September 13, 1887.

9537. **Pyromorphite** (phosphate and chloride of lead), Iron Hill Mine, Carbonate District, Lawrence County, Dakota. E. A. Weinberg. September 13, 1887.

9538. **Vanadinite** (chloro-vanadate of lead), Iron Hill Mine, Carbonate District, Lawrence County, Dakota. E. A. Weinberg. September 13, 1887.

9539. *a.* **Sand**, John Depuy's brickyard, Eureka, Humboldt County, California. Jas. B. Brown. September 13, 1887.

9540. *b.* **Lignite**, two feet thick, depth from surface sixteen to eighteen feet, John Depuy's brickyard, Eureka, Humboldt County, California. Jas. B. Brown. September 13, 1887.

9541. *c.* **Clay**, four feet thick, depth from surface eighteen to twenty-two feet, John Depuy's brickyard, Eureka, Humboldt County, California. Jas. B. Brown. September 13, 1887.

9542. *d.* **Lignite**, one foot thick, depth from surface twenty-two to twenty-three feet, John Depuy's brickyard, Eureka, Humboldt County, California. Jas. B. Brown. September 13, 1887.

9543. *e.* **Clay**, three feet thick, depth from surface twenty-three to twenty-six feet, John Depuy's brickyard, Eureka, Humboldt County, California. Jas. B. Brown. September 13, 1887.

9544. *f.* **Clay and Shells,** one foot thick, depth from surface twenty-six to twenty-seven feet, John Depuy's brickyard, Eureka, Humboldt County, California. Jas. B. Brown. September 13, 1887.

9545. *g.* **Clay,** eleven feet thick, depth twenty-seven to thirty-eight feet from surface, John Depuy's brickyard, Eureka, Humboldt County, California. Jas. B. Brown. September 13, 1887.

At this yard all the materials for making first class bricks, and the fuel with which they are burned, are got out together from the same bank.

9546. **Bismutite** (hydrated carbonate of bismuth), and **Cerussite** (carbonate of lead), from near the Vulture Mine, Phœnix, Arizona. Alexander Porterie. September 14, 1887.

9547. **Chromic Iron,** Mendenhall Mine, sixteen miles south of Livermore, Alameda County, California. September 14, 1887.

9548. **Chromic Iron,** from a deposit south from the Mendenhall Mine, Livermore, Alameda County, California. September 14, 1887.

9549. **Chromic Iron,** Douglass Mine, south of Livermore, Alameda County, California. September 14, 1887.

9550. **Iron Oxide**—Hematite, thought to be suitable for paint, Mendenhall Spring, twelve miles south of Livermore, Alameda County, California. September 14, 1887.

9551. **Muscovite** (mica), crystal, Delaware County, Pennsylvania. F. E. Monteverde. September 17, 1887.

9552. **Tourmaline,** crystal, Drum Valley, Tulare County, California. F. E. Monteverde. September 17, 1887.

9553. **Serpentine,** passing into Deweylite, Delaware County, Pennsylvania. F. E. Monteverde. September 17, 1887.

9554. **Wolfram** (tungstate of iron), Cornwall, England. F. E. Monteverde. September 17, 1887.

9555. **Galenite** (sulphide of lead), Carlisle Mine, Arizona. Melville Attwood. September 19, 1887.

9556. **Fluorite** (fluoride of calcium), New Almaden, Santa Clara County, California. John Bryant. September 19, 1887.

9557. **Obsidian and Feldspar**, glassy, seven to eight miles from Napa, Napa County, California. Frank Larkin. September 19, 1887.

9558. **Talc** (hydrous silicate of magnesium), Amargosa Valley, Nevada, near the boundary line of California. Jno. McCuen. September 23, 1887.

9559. **Gravel**, from the South African diamond fields. Melville Attwood. September 27, 1887.

9560. **Barite** (sulphate of baryta), on Galenite, with microscopic crystals of Anglesite, Galena, Illinois. D. Jutton. September 27, 1887.

9561. **Confederate States Currency**, value $5, one of the first series issued J. W. Bell. October 3, 1887.

9562. **Rifle**, originally a flint lock, made in Philadelphia in 1818 for Lewis Terry of Cincinnati; restocked and altered to a percussion lock in 1840 by his son, L. Terry, Jr. L. A. Terry. October 5, 1887.

9563. **Japanese Silk Reel**, ingeniously dovetailed together, no nails or pins being used in its construction. P. J. Healey. October 6, 1887.

9564. **Ostrea carinata**, Cretaceous Fossil, Upper Greensand, Kingskerswell, Devonshire, England. J. Z. Davis. October 8, 1887.

9565. **Lymnea longiscata**, Cretaceous Fossil, Pembridge Limestone, England. J. Z. Davis, October 8, 1887.

9566. **Spirifer laminosa**, Carboniferous Fossil, Carboniferous Limestone, Hook Point, Wexford, Ireland. J. Z. Davis. October 8, 1887.

. **Pecten quinque-costatus,** Cretaceous Fossil, Upper Greensand, Kingskerswell, Devonshire, England. J. Z. Davis. October 8, 1887.

. **Pecten tigrinus,** Tertiary Fossil, Coralline Crag, Gomer, Suffolk, England. J. Z. Davis. October 8, 1887.

. **Spirifer vermuilii,** Devonian Fossil, Boulogne, France. J. Z. Davis. October 8, 1887.

. **Pholadonga fidicula,** Jurassic Fossil, Inferior Oolite, Malton, England. J. Z. Davis. October 8, 1887.

. **Lima spinosa,** Cretaceous Fossil, Upper Chalk, Clayton, England. J. Z. Davis. October 8, 1887.

. **Pharetrospongia,** Cretaceous Fossil, Lower Greensand, Farringdon, England. J. Z. Davis. October 8, 1887.

. **Productus giganteus,** var. hemispherica, Carboniferous Fossil, England. J. Z. Davis. October 8, 1887.

. **Anthracosia acuta,** Carboniferous Fossil, Coal Measures, Scotland. J. Z. Davis. October 8, 1887.

. **Orthis,** Paleozoic Fossil, Caradoc Sandstone, England. J. Z. Davis. October 8, 1887.

. **Inoceramus brogniartii,** Cretaceous Fossil, Upper Greensand, Halden, Devonshire, England. J. Z. Davis. October 8, 1887.

. **Isastraea oblaiga,** Jurassic Fossil, Portland Oolite, Fisbury, Wiltshire, England. J. Z. Davis. October 8, 1887.

. **Spirifer striata,** Carboniferous Fossil, Carboniferous Limestone, Derbyshire, England. J. Z. Davis. October 8, 1887.

9579. **Crassatella sulcata,** Tertiary Fossil, Barton Clay, Hampshire, England. J. Z. Davis. October 8, 1887.

9580. **Hovmera reteporacea,** Tertiary Fossil, Coralline Crag, Aldeburgh, England. J. Z. Davis. October 8, 1887.

9581. **Chama squamosa,** Tertiary Fossil, Barton Clay, Hampshire, England. J. Z. Davis. October 8, 1887.

9582. **Succinum dalei,** Tertiary Fossil, Red Crag, Suffolk, England. J. Z. Davis. October 8, 1887.

9583. **Palaecorytes stokesii,** Cretaceous Fossil, Gault, Folkestone, England. J. Z. Davis. October 8, 1887.

9584. **Terebratula,** Cretaceous Fossil, Upper Greensand, Kingskerswell, Devonshire, England. J. Z. Davis. October 8, 1887.

9585. **Melania inguinata,** Tertiary Fossil, Woolwich and Reading Beds, England. J. Z. Davis. October 8, 1887.

9586. **Hovmera frondiculata,** Tertiary Fossil, Coralline Crag, Sudbourne, England. J. Z. Davis. October 8, 1887.

9587. **Fenestella,** Carboniferous Fossil, Hook Point, Wexford, Ireland. J. Z. Davis. October 8, 1887.

9588. **Atrypa reticularis,** Paleozoic Fossil, Dudley Limestone, England. J. Z. Davis. October 8, 1887.

9589. **Astarte galeottii,** Tertiary Fossil, Coralline Crag, Gomer, England. J. Z. Davis. October 8, 1887.

9590. **Solen ensis,** Tertiary Fossil, Coralline Crag, Gomer, Suffolk, England. J. Z. Davis. October 8, 1887.

9591. **Fusus bulbiformis,** Tertiary Fossil, Barton Clay, Hampshire, England. J. Z. Davis. October 8, 1887.

9592. **Nucula ovata,** Cretaceous Fossil, Gault, Folkestone, England. J. Z. Davis. October 8, 1887.

9593. **Pectunculus glycimeris,** Tertiary Fossil, Red Crag, Walton, Essex, England. J. Z. Davis. October 8, 1887.

9594. **Astarte mutabile,** Tertiary Fossil, Coralline Crag, Gomer, England. J. Z. Davis. October 8, 1887.

9595. **Gryphea incurva,** Jurassic Fossil, Lias, Messingham, Lincolnshire, England. J. Z. Davis. October 8, 1887.

9596. **Corbula nucleus,** Tertiary Fossil, Coralline Crag, Gomer, Suffolk, England. J. Z. Davis. October 8, 1887.

9597. **Succinum borealis,** Tertiary Fossil, Coralline Crag, Gomer, England. J. Z. Davis. October 8, 1887.

9598. **Astarte basterotti,** Tertiary Fossil, Coralline Crag, Gomer, England. J. Z. Davis. October 8, 1887.

9599. **Cardium parkinsonii,** Tertiary Fossil, Red Crag, Walton, Essex, England. J. Z. Davis. October 8, 1887.

9600. **Hamites rotundus,** Cretaceous Fossil, Gault, Folkstone, England. J. Z. Davis. October 8, 1887.

9601. **Graptolite** (two specimens), Lower Silurian Fossil, Burlington, Vermont. J. Z. Davis. October 8, 1887.

9602. **Ammonite,** Lower Silurian Fossil, Burlington, Vermont. J. Z. Davis. October 8, 1887.

9603. **Mactra ovalis,** Tertiary Fossil, Red Crag, Butley, England. J. Z. Davis. October 8, 1887.

9604. **Tellina pretennis,** Tertiary Fossil, Red Crag, Butley, England. J. Z. Davis. October 8, 1887.

9605. **Trochus granulatus,** Tertiary Fossil, Red Crag, Boyton, England. J. Z. Davis. October 8, 1887.

9606. **Natica patula,** Tertiary Fossil, Barton Clay, Hampshire, England. J. Z. Davis. October 8, 1887.

9607. **Mactra arcuta,** Tertiary Fossil, Red Crag, Walton, Essex, England. J. Z. Davis. October 8, 1887.

9608. **Artemis lutiformis,** Tertiary Fossil, Red Crag, Walton, Essex, England. J. Z. Davis. October 8, 1887.

9609. **Paludina lenta,** Tertiary Fossil, Pembridge Marl, England. J. Z. Davis. October 8, 1887.

9610. **Turritella terebra,** Tertiary Fossil, Red Crag, Boyton, England. J. Z. Davis. October 8, 1887.

9611. **Aucillaria bucunoides,** Tertiary Fossil, Barton Clay, Hampshire, England. J. Z. Davis. October 8, 1887.

9612. **Littorina littoria,** Tertiary Fossil, Norwich Crag, Suffolk, England. J. Z. Davis. October 8, 1887.

9613. **Pectunculus umbonatus,** Cretaceous Fossil, Upper Greensand, Warminster, England. J. Z. Davis. October 8, 1887.

9614. **Nucula nucleus,** Tertiary Fossil, Coralline Crag, Gomer, England. J. Z. Davis. October 8, 1887.

9615. **Astarte compressa,** Tertiary Fossil, Norwich Crag, Bridlington, Yorkshire, England. J. Z. Davis. October 8, 1887.

9616. **Fusus costifer,** Tertiary Fossil, Red Crag, Boyton, England. J. Z. Davis. October 8, 1887.

9617. **Cardium angustatum,** Tertiary Fossil, Butley, Suffolk, England. J. Z. Davis. October 8, 1887.

9618. **Fusus scalariformis,** Tertiary Fossil, Red Crag, Boyton, England. J. Z. Davis. October 8, 1887.

9619. **Cryptangia woodii,** Tertiary Fossil, Coralline Crag, Gomer, England. J. Z. Davis. October 8, 1887.

9620. **Diplodonta rotunda,** Tertiary Fossil, Coralline Crag, Gomer, England. J. Z. Davis. October 8, 1887.

9621. **Balanophyllum calyculus,** Tertiary Fossil, Red Crag, Boyton, England. J. Z. Davis. October 8, 1887.

9622. **Cerithium concavum,** Tertiary Fossil, Pembridge Beds, England. J. Z. Davis. October 8, 1887.

9623. **Fusus gracilis,** Tertiary Fossil, Red Crag, Boyton, England. J. Z. Davis. October 8, 1887.

9624. **Natica hemiclausa,** Tertiary Fossil, Red Crag, Walton, England. J. Z. Davis. October 8, 1887.

9625. **Strophodus magnus,** Jurassic Fossil, Great Oolite, Minchinhampton, England. J. Z. Davis. October 8, 1887.

9626. **Cyclocyathus fittoni,** Cretaceous Fossil, Gault, Folkestone, England. J. Z. Davis. October 8, 1887.

9627. **Cyrena cunaiformis,** Tertiary Fossil, Woolwich and Reading Beds, England. J. Z. Davis. October 8, 1887.

9628. **Halysites catenslatis,** Paleozoic Fossil, Dudley Limestone, England. J. Z. Davis. October 8, 1887.

9629. **Nucula bivirgata,** Cretaceous Fossil, Gault, Folkestone, England. J. Z. Davis. October 8, 1887.

9630. **Actæon offinis,** Cretaceous Fossil, Gault, Folkestone, England. J. Z. Davis. October 8, 1887.

9631. **Nana reticosa,** Tertiary Fossil, Red Crag, Walton, Essex, England. J. Z. Davis. October 8, 1887.

9632. **Cellepora cuspitosa**, Tertiary Fossil, Coralline Crag, Gomer, England. J. Z. Davis. October 8, 1887.

9633. **Nassa propinqua**, Tertiary Fossil, Red Crag, Boyton, England. J. Z. Davis. October 8, 1887.

9634. **Nucula pectinata**, Cretaceous Fossil, Gault, Folkestone, England. J. Z. Davis. October 8, 1887.

9635. **Pecten gerardii**, Tertiary Fossil, Coralline Crag, Gomer, Suffolk, England. J. Z. Davis. October 8, 1887.

9636. **Inoceramus concentricus**, Cretaceous Fossil, Gault, Folkestone, England. J. Z. Davis. October 8, 1887.

9637. **Pecten demissus**, Jurassic Fossil, Lias, Whitby, England. J. Z. Davis. October 8, 1887.

9638. **Actinocrinus polydactylus**, Carboniferous Fossil, Hood Point, Wexford, Ireland. J. Z. Davis. October 8, 1887.

9639. **Natica greenlandica**, Tertiary Fossil, Red Crag, Butley, England. J. Z. Davis. October 8, 1887.

9640. **Cytherea incrassata**, Tertiary Fossil, Hampstead Beds, England. J. Z. Davis. October 8, 1887.

9641. **Cardium edulis**, Tertiary Fossil, Red Crag, Walton, Essex, England. J. Z. Davis. October 8, 1887.

9642. **Porosphaera globularis**, Cretaceous Fossil, Upper Chalk, Surrey, England. J. Z. Davis. October 8, 1887.

9643. **Terebratulina striata**, Cretaceous Fossil, Middle Chalk, Surrey, England. J. Z. Davis. October 8, 1887.

9644. **Xanthopsis leachii**, Tertiary Fossil, London Clay, Sheppy, England. J. Z. Davis. October 8, 1887.

9645. **Euchodus halocyon,** Cretaceous Fossil, Upper Chalk, Clayton, England. J. Z. Davis. October 8, 1887.

9646. **Exogyra tenuata,** Cretaceous Fossil, Lower Greensand, Atherfield, Isle of Wight, England. J. Z. Davis. October 8, 1887.

9647. **Lepidodendron obivatum,** Carboniferous Fossil, Coal Measures, South Wales, England. J. Z. Davis. October 8, 1887.

9648. **Japanese two-handed Sword,** of unusual length. J. Z. Davis. October 12, 1887.

9649. **Antimony,** pig or ingot of "star" antimony, showing a very beautiful crystallization; reduced from Kern County ore. Mrs. L. S. Rogers. October 13, 1887.

9650. **Silicious Earth,** a good polishing material, large specimen, San Luis Obispo, California. R. E. Jack. October 13, 1887.

9651. **Clay,** with a large proportion of sand, stained with sesquioxide of iron. It is tolerably hard, and is used like brick or stone for building chimneys, etc., as it resists the action of fire. One and one half miles from Arroyo Grande, San Luis Obispo County, California. W. A. Henderson. October 13, 1887.

9652. **Gold Quartz,** from the 250-foot level of the Golden Treasure Mine, eight miles east of Sonora, Tuolumne County, California. Green & Spencer. October 13, 1887.

This large and fine specimen, estimated to weigh about one thousand pounds, is a typical specimen of the lode, which, at this point, is nine feet wide.

9653. **Coal,** Eel River, Humboldt County, California. October 13, 1887.

9654. **Gneiss,** dressed specimen, suitable for building stone, Mad River, Humboldt County, California. October 13, 1887.

9655. **Gold Quartz**, Washington Mine, Washington District, Nevada County, California. From the Company. October 13, 1887.

9656. **Gold Quartz**, Nevada County Mine, Nevada City, Nevada County, California. From the Company. October 13, 1887.

9657. **Gold Quartz**, Mountaineer Mine, Nevada City, Nevada County, California. From the Company. October 13, 1887.

9658. **Gold Quartz**, south drift, 1300-foot level of the Original Empire Mine, Grass Valley, Nevada County, California. From the Company. October 13, 1887.

9659. **Gold Quartz**, north drift, 1600-foot level of the Original Empire Mine, Grass Valley, Nevada County, California. From the Company. October 13, 1887.

9660. **Gold Quartz**, Brunswick Mine, Grass Valley, Nevada County, California. From the Company. October 13, 1887.

9661. **Gold Quartz**, Nevada City Mine, Nevada City, Nevada County, California. From the Company. October 14, 1887.

9662. **Gold Quartz**, north drift, 1700-foot level of the original Empire Mine, Grass Valley, Nevada County, California. From the Company. October 14, 1887.

9663. **Gold Quartz**, Spanish Mine, Nevada District, Nevada County, California. From the Company. October 14, 1887.

9664. **Gold Quartz**, Blue Bell Mine, Washington District, Nevada County, California. From the Company. October 14, 1887.

9665. **Gold Quartz**, Rocky Glen Mine, Eureka District, Nevada County, California. From the Company. October 14, 1887.

9666. **Gold Quartz,** Gold Run Mine, Nevada District, Nevada County, California. From the Company. October 14, 1887.

9667. **Gold Quartz,** Ætna Mine, Grass Valley, Nevada County, California. From the Company. October 14, 1887.

9668. **Gold Quartz,** Blue Jay Mine, Washington District, Nevada County, California. From the Company. October 14, 1887.

9669. **Gold Quartz,** west drift, 1500-foot level, North Star Mine, Grass Valley, Nevada County, California. From the Company. October 14, 1887.

9670. **Gold Quartz,** east drift, 1600-foot level, North Star Mine, Grass Valley, Nevada County, California. From the Company. October 14, 1887.

9671. **Gold Quartz,** Pittsburg Mine, Gold Flat, Nevada City, Nevada County, California. From the Company. October 14, 1887.

9672. **Gold Quartz,** North Banner Mine, Nevada City, Nevada County, California. From the Company. October 14, 1887.

9673. **Gold Quartz,** Blue Bell Mine, Washington District, Nevada County, California. From the Company. October 14, 1887.

9674. **Gold Quartz,** Union Mine, Nevada City, Nevada County, California. From the Company. October 14, 1887.

9675. **Gold Quartz,** Slide Mine, French Corral District, Nevada County, California. From the Company. October 14, 1887.

9676. **Gold Quartz,** Mayflower Mine, Nevada City, Nevada County, California. Martin Bros. October 14, 1887.

9677. **Gold Quartz,** Boss Mine, North San Juan, Nevada County, California. From the Company. October 14, 1887.

9678. **Gold Quartz,** Maryland Mine, Grass Valley, Nevada County, California. From the Company. October 14, 1887.

9679. **Gold Quartz,** Crown Point Mine, Grass Valley, Nevada County, California. From the Company. October 14, 1887.

9680. **Gold Quartz,** Mayflower Mine, Nevada City, Nevada County, California. Martin Bros. October 14, 1887.

9681. **Gold Quartz,** W. Y. O. D. Mine, Grass Valley, Nevada County, California. From the Company. October 14, 1887.

9682. **Gold Quartz,** California Mine, Eureka District, Nevada County, California. From the Company. October 14, 1887.

9683. **Gold Quartz,** Last Chance Mine, Grass Valley, Nevada County, California. From the Company. October 14, 1887.

9684. **Gold Quartz,** 100-foot level of the Golden Treasure Mine, eight miles east of Sonora, Tuolumne County, California. Green & Spencer. October 14, 1887.

9685. **Gold Quartz,** 250-foot level of the Golden Treasure Mine, eight miles east of Sonora, Tuolumne County, California. Green & Spencer. October 14, 1887.

9686. **Gold Quartz,** 350-foot level of the Golden Treasure Mine, eight miles east of Sonora, Tuolumne County, California. Green & Spencer. October 14, 1887.

9687. **Auriferous Pyrites,** concentrations from the quartz of the Golden Treasure Mine, eight miles east of Sonora, Tuolumne County, California. Green & Spencer. October 14, 1887.

9688. **Iron Ore**—Limonite, Grass Valley, Nevada County, California. October 14, 1887.

9689. **Building Stone**—Syenite, from a quarry fifteen acres in extent, on the ranch of Jas. Presho, Half-moon Bay, San Mateo County, California. October 15, 1887.

9690. **Auriferous Black Sand,** rich in gold, Gold Bluff, Humboldt County, California. Major John Chapman. October 15, 1887.

9691. **Cerargyrite** (chloride of silver) on **Barite** (sulphate of baryta), Red Cloud Mine, Calico District, San Bernardino County, California. Wm. Robinson. October 15, 1887.

9692. **Auriferous Pyrites,** concentrations, Original Empire Mine, Grass Valley, Nevada County, California. From the Company. October 15, 1887.

9693. **Auriferous Pyrites,** concentrations, Nevada City Mine, Nevada County, California. From the Company. October 15, 1887.

9694. **Auriferous Pyrites** (raw), concentrations from quartz. H. Stansfield. October 15, 1887.

9695. **Auriferous Pyrites** (roasted), concentrations from quartz. H. Stansfield. October 15, 1887.

9696. **Petroleum**—crude, Union Oil Well, Petrolia, Humboldt County, California. Wm. Hindley. October 17, 1887.

9697. **Core of Diamond Drill,** Salina Measures (Gas Rock), Buffalo Cement Works, Buffalo, New York. L. J. Bennett. October 17, 1887.

9698. **Wood Pulp,** for paper making, and wood from which it is made (white fir), partly ground off to show the method of manufacture, Alta, Placer County, California. Towle Bros. October 17, 1887.

9699. **Chromic Iron,** Hazel Creek, Shasta County, California. From the Mount Shasta Chrome Mining Company. October 17, 1887.

9700. **Diatomaceous Earth,** Pit River, Shasta Couuty, California. October 17, 1887.

Said to be in large quantity.

9701. **Old Spanish Bit,** found in running an open cut while prospecting for petroleum, Ventura County, California. October 19, 1887.

9702. **Building Material,** from the old Mission at San Buenaventura, consisting of adobes, paving tiles, roofing tiles, sticks with rawhide thongs attached, on which the roof tiles were supported, etc. October 19, 1887.

9703. **Building Stone**—yellow sandstone dressed, from W. G. Brittan's ranch, near Redwood City, San Mateo County, California. W. G. Brittan. October 19, 1887.

9704. **Building Stone,** dressed specimens, from quarry near San Miguel, San Mateo County, California. E. O. Brady. October 19, 1887.

9705. **Copper**—Native, remarkably fine specimen, partially incrusted with native silver, Ray Copper Mine, Mineral Creek, Pinal County, Arizona. Jno. F. Kennedy. October 20, 1887.

9706. **Silver**—Native, Ray Copper Mine, Mineral Creek, Pinal County, Arizona. Jno. F. Kennedy. October 20, 1887.

9707. **Gold Quartz,** Idaho Mine, Grass Valley, Nevada County, California. From the Company. October 24, 1887.

9708. **Iron Ore**—Limonite, ranch of P. B. Prefumo, San Luis Obispo County, California. P. B. Prefumo. October 27, 1887.

9709. **Silver Ore** (argentiferous galena), Callahan's Ranch, Siskiyou County, California. From the Shasta County Fair Association. October 28, 1887.

9710. **Silver Ore** (argentiferous galena), and specimen of bullion, Bullion Mine, Igo District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9711. **Silver Ore,** Climax Mine, South Fork District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9712. **Silver Ore** (argentiferous galena), Big Bend of Pit River, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9713. **Silver Ore,** Baxter Mine, South Fork District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9714. **Silver Ore,** Lost Confidence Mine, Iron Mountain, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9715. **Silver Ore,** Chicago Mine, Igo District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9716. **Silver Ore,** Chico Mine, South Fork District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9717. **Silver Ore,** Continental Mine, South Fork District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9718. **Copper Ore,** Iron Mountain, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9719. **Silver Ore,** Crystal Mine, South Fork District, Shasta County, California From the Shasta County Fair Association. October 28, 1887.

9720. **Gold Quartz,** with telluride of gold, Washington Mine, French Gulch District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9721. **Gold Quartz,** Green Mountain Mine, Redding District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9722. **Gold Quartz,** Clipper Mine, Squaw Creek District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9723. **Gold Quartz,** Carson & Snyder Mine, Squaw Creek District, Shasta County California. From the Shasta County Fair Association. October 28, 1887.

9724. **Gold Quartz**, Black Bear Mine, Squaw Creek District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9725. **Auriferous Pyrites**, concentrations from Black Bear Mine, Squaw Creek District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9726. **Gold Quartz**, Big Central Mine, South Fork District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9727. **Auriferous Pyrites**, concentrations from the Old Spanish Mine, Buckeye District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9728. **Auriferous Pyrites**, concentrations from the Central Mine, Buckeye District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9729. **Gold Quartz**, Star Gulch Mine, Buckeye District, Shasta County, California. From the Shasta County Fair Association. October 28, 1887.

9730. **Gold Quartz**, Texas and Georgia Mine, Buckeye District, near Redding, Shasta County, California. F. M. Swasey.

9731. **Gold Quartz**, Brown Bear Mine, Deadwood District, Trinity County, California. Shasta County Fair Association. October 28, 1887.

9732. **Gold Quartz**, Dreadnaught Mine, Deadwood District, Trinity County, California. From the Shasta County Fair Association. October 28, 1887.

9733. **Gold Quartz**, Nigger Hill Mine, Shasta County, California. R. G. Dunn. November 2, 1887.

This specimen taken at a depth of forty feet.

9734. **Gold Quartz**, 100-foot level of Nigger Hill Mine, Shasta County, California. R. G. Dunn. November 2, 1887.

9735. **Gold Quartz**, Rancho El Refugio, three and one half miles from Santa Cruz, Santa Cruz County, California. November 2, 1887.

9736. **Gold Quartz**, rich, Alameda Mine, Rawhide District, Tuolumne County, California. C. H. Livingston. November 2, 1887.

9737. **Gold Quartz**, from the Morning Star, Slide, and Surepay Mines, three miles east of Darrah, Mariposa County, California. Mrs. J. P. Stough. November 2, 1887.

9738. **Quartz Crystals**, stained by iron and sulphur, Shakespeare Mine, Forbestown, Butte County, California. H. R. Stow. November 2, 1887.

9739. **Gypsum** (hydrous sulphate of calcium), San Bernardino County, California. L. H. Quimet. November 2, 1887.

9740. **Semi-Opal**, San Benito County, California. Thos. Flint, Jr. November 2, 1887.

9741. **Graphite**, near Santa Rosa, Sonoma County, California. J. S. Titus, Jr. November 2, 1887.

9742. **Graphite** (very impure), San Bernardino County, California. Dickey & Co. November 2, 1887.

9743. **Graphite**, twelve miles east of Point Arena, Mendocino County, California. G. B. Dolman, M.D. November 2, 1887.

9744. **Slag**, Eureka, Nevada. C. S. Batchelder. November 2, 1887.

9745. **Nitrate of Soda** (crude), Mount Hope, Nevada. Hon. Thos. Wren. November 2, 1887.

9746. **Rock Specimen**, inclosing rock of the Nitrate of Soda deposit, Mount Hope, Nevada. Hon. Thos. Wren. November 2, 1887.

9747. **Chrysocolla** (silicate of copper), with Erubescite and Malachite, on earthy manganese ore. Traver, Tulare County, California. W. R. Corrington. November 2, 1887.

9748. **Magnesite** (carbonate of magnesium), near St. Helena, Napa County, California. W. Burnell. November 2, 1887.

9749. **Magnesite** (carbonate of magnesium), San Bernardino County, California. L. H. Quimet. November 2, 1887.

9750. **Clay**, Sec. 16, R. 20 W., T. 3 N., S. B. M., Spregel Cañon, San Bernardino Mountains, Ventura County, California. S. P. Guiberson, M.D. November 2, 1887.

9751. **Clay**, Weimar, Placer County, California. R. L. Dunn. November 2, 1887.

9752. **Diatomaceous Earth**, containing microscopic marine shells, and impregnated with bitumen, from the mouth of Dos Pueblos Creek, near Naples, Santa Barbara County, California. J. H. Williams. November 2, 1887.

9753. **Wollastonite** (silicate of calcium), T. 25, R. 7 W., Sec. 16, Tehama County, California. J. A. Heslewood. November 2, 1887.

9754. **Fossils** (carboniferous), vicinity of Eureka, Nevada. C. S. Batchelder. November 2, 1887.

9755. **Wall Rock**, altered Syenite, hanging wall of the fissure north of the Nevada City Mine, Nevada County, California. Melville Attwood. November 2, 1887.

9756. **Rock Specimen**, Dolerite, with seam of black tourmaline, Meadow Lake, Nevada County, California, W. L. Watts. November 2, 1887.

9757. **Rock Specimen**, quarry five miles northwest of Santa Cruz, Santa Cruz County, California. J. L. Thurber. November 2, 1887.

9758. **Iron Ore**—Limonite, T 25, R. 7 W., Sec. 6, Tehama County, California. J. A. Heslewood. November 2, 1887.

9759. **Coal,** a bituminous coking coal, T. 25, R. 7 W., Sec. 6, Tehama County, California. J. A. Heslewood. November 2, 1887.

9760. **Gilsonite,** a variety of asphaltum, Santa Barbara, California. Hon. Geo. Hearst. November 2, 1887.

9761. **Bituminous Shale,** San Bernardino County, California. C. C. Crawley. November 2, 1887.

9762. **Auriferous Vein Matter,** carrying silver, Northern Spy Mine, Utah. J. W. Hanson. November 2, 1887.

9763. **Silver Ore,** Prospect Mountain, Eureka, Nevada. Hon. Thos. Wren. November 2, 1887.

9764. **Wad,** earthy manganese ore, "Bog manganese," Traver, Tulare County, California. W. R. Corrington. November 2, 1887.

9765. **Iron Ore,** Magnetite, near Monterey, Monterey County, California. Jno. Hatsell. November 2, 1887.

9766. **Section of Wharf Pile,** from Green Street Wharf, San Francisco, showing the ravages of the Teredo navalis. The pile was driven in 1879, and taken out June, 1887. Hon. Richard Cohen. November 2, 1887.

9767. **Bark of Cork Oak** (quercus suber), from a large tree at Visalia, Tulare County, California. Judge S. Heydenfeldt. November 8, 1887.

9768. **Slate,** suitable for roofing, billiard tables, etc.; from quarry near Placerville, El Dorado County, California. From the Company. November 8, 1887.

9769. **Dendrites** of oxide of manganese, on country rock of the Mount Diablo Silver Mine, Candelaria, Esmeralda County, Nevada. Owen Pierce. November 8, 1887.

9770. **Sphaero-Stilbite** (hydrous silicate of aluminum and calcium), Ikun, Aleutian Islands, Alaska. Captain C. J. Hague. November 10, 1887.

9771. **Quicksilver Ore,** Cinnabar, two specimens of very rich ore from the Bradford Quicksilver Mine, Lake County, California. Miss M. Bradford. November 10, 1887.

9772. **Copper**—Native, very fine specimen, Lake Superior, Michigan. J. Z. Davis. November 14, 1887.

9773. **Silver**—Native, Chihuahua, Mexico. J. Z. Davis. November 14, 1887.

9774. **Minium** (oxide of lead), Leadville, Colorado. J. Z. Davis. November 14, 1887.

9775. **Limonite** (hydrate of iron), variety known as "blackberry ore," Lake Superior, Michigan. J. Z. Davis. November 14. 1887.

9776. **Metacinnabarite**, a variety of cinnabar (sulphide of mercury), Bradford Mine, Lake County, California. J. Z. Davis. November 14, 1887.

9777. **Quartz** (epimorphic), Cornwall, England. J. Z. Davis. November 14, 1887.

9778. **Cerargyrite** (chloride of silver), Robert E. Lee Mine, Leadville, Colorado. J. Z. Davis. November 17, 1887.

9779. **Pyrargyrite** (sulph-antimonide of silver), Freiberg, Germany. J. Z. Davis. November 17, 1887.

9780. **Argentite** (sulphide of silver), Freiberg, Germany. J. Z. Davis. November 17, 1887.

9781. **Stephanite** (sulph-antimonide of silver), Freiberg, Germany. J. Z. Davis. November 17, 1887.

9782. **Quartz Crystal,** very large and clear; weight, 106 pounds; Green Mountain Mine, Chili Gulch, Calaveras County, California. T. McSorley. November 19, 1887.

9783. **Calcite Crystals**—dolomitic (carbonate of lime and magnesia), New Almaden Quicksilver Mine, Santa Clara County, California. J. B. Randol. November 28, 1887.

9784. **Marble** (white), several specimens, from the quarries of the Inyo Marble Company, Keeler, Inyo County, California. Capt. J. M. Keeler. November 30, 1887.

9785. **Marble** (variegated), three specimens, from the quarries of the Inyo Marble Company, Keeler, Inyo County, California. Capt. J. M. Keeler. November 30, 1887.

9786. **Marble** (yellow), from the quarries of the Inyo Marble Company, Keeler, Inyo County, California. Capt. J. M. Keeler. November 30, 1887.

9787. **Embolite** (chloro-bromide of silver), Cibolo Creek Mine, Shafter, Presidio County, Texas. Wm. Noyes. December 1, 1887.

9788. **Silver Ore,** Cibolo Creek Mine, Shafter, Presidio County, Texas. Wm. Noyes. December 1, 1887.

9789. **Limestone,** country rock of Cibolo Creek Silver Mine, Shafter, Presidio County, Texas. Wm. Noyes. December 1, 1887.

9790. **Silver Ore,** Baltimore Consolidated Mine, Comstock Lode, Gold Hill, Nevada. S. Heydenfeldt, Jr. December 1, 1887.

9791. **Silver Ore,** Northern Belle Mine, Candelaria, Esmeralda County, Nevada. O. Belding. December 1, 1887.

9792. **Lignite,** from a group of hills known as the "Seven Devils," Coos County, Oregon. J. A. Johnson. December 1, 1887.

9793. **Gold Quartz,** San Andres Mine, Department of Copan, Honduras. C. H. Aaron. December 1, 1887.

9794. **Rock Specimen,** country rock of San Andres Mine, Department of Copan, Honduras. C. H. Aaron. December 1, 1887.

9795. **Copper Ore**—Malachite and Chrysocolla, Engels' Mine No. 2, Taylorsville, Plumas County, California. H. A. Engels. December 1, 1887.

9796. **Copper Ore**—Erubescite, Engels' Mine No. 2, Taylorsville, Plumas County, California. H. A. Engels. December 1, 1887.

9797. **Copper Ore**—Chalcopyrite, Engels' Mine No. 2, Taylorsville, Plumas County, California. H. A. Engels. December 1, 1887.

9798. **Gold Quartz,** showing free gold, Empire Mine, French Gulch District, Shasta County, California. G. W. Meyer. December 1, 1887.

9799. **Wall Rock,** hanging wall of Empire Mine, French Gulch District, Shasta County, California. J. W. Meyer. December 1, 1887.

9800. **Wall Rock,** foot wall of Empire Mine, French Gulch District, Shasta County, California. J. W. Meyer. December 1, 1887.

9801. **Silicified Wood,** Santa Rosa, Sonoma County, California. A. W. Dana. December 1, 1887.

9802. **Nitrate of Soda**—Crude, Iquique, Tarapaca, Chili. P. C. Du Bois. December 1, 1887.

9803. **Epsomite** (hydrous sulphate of magnesium), Peru. C. H. Aaron. December 2, 1887.

9804. **Diatomaceous Earth,** near Edge Hill Vineyard, Napa County, California. F. H. Hausman. December 2, 1887.

9805. **Diatomaceous Earth,** Pioche, Lincoln County, Nevada. G. Landström. December 2, 1887.

9806. **Iron Ore**—Magnetite, Hoonah Island, Alaska. A. Everett Ball. December 2, 1887.

9807. **Quartz, Epidote, and Asbestus,** near Robinson's Ferry, Calaveras County, California. W. Aelgerter. December 3, 1887.

9808. **Chromic Iron,** Santa Inez Mountains, Santa Barbara County, California. Lorenzo G. Yates. December 3, 1887.

9809. **Silicified Wood,** Lyon County, Nevada. John D. Ludwig. December 3, 1887.

9810. **Semi-Opalized Wood,** Lyon County, Nevada. John D. Ludwig. December 3, 1887.

9811. **Gold Quartz,** vein 800 feet wide, Alworth Mine, Josephine County, Oregon. L. J. Lewis. December 3, 1887.

9812. **Dragon** (bronze), Japan. J. Z. Davis. December 5, 1887.

9813. **Box,** carved from a block of steatite, Japan. J. Z. Davis. December 5, 1887.

9814. **Box,** carved from a block of steatite, Japan. J. Z. Davis. December 5, 1887.

9815. **Gold Quartz,** showing free gold, Saragosa Mine, Holcombe Valley District, San Bernardino County, California. December 7, 1887.

9816. **Quartz Crystal** (smoky), from near Sterling, Montana. J. Z. Davis. December 13, 1887.

9817. **Copper Ore,** Cuprite, Meadow Lake District, Nevada County, California. F. Lee Clark. December 15, 1887.

9818. **Auriferous Vein Matter,** Meadow Lake District, Nevada County, California. F. Lee Clark. December 15, 1887.

9819. **Pair of Antique Japanese Saddle Stirrups.** J. Z. Davis. December 21, 1887.

9820. **Colymbus Glacialis**, Loon or Great Northern Diver, Bristol Bay, Alaska. J. Z. Davis. December 21, 1887.

9821. **Garnets**, on chalcopyrite and bornite, Woodford's, Alpine County, California. Edward Barnes. January 5, 1888.

9822. **Graphite** (plumbago), on Clay, Los Angeles, California. D. Lee Requa. January 5, 1888.

9823. **Mangano-Calcite** (carbonate of manganese and calcium), Lady Franklin Mine, Kingston, New Mexico. M. Thompson. January 5, 1888.

9824. **Silver Ore**, rich sulphides and chlorides, from the 150-foot level of the Lady Franklin Mine, Kingston, New Mexico. M. Thompson. January 5, 1888.

9825. **Wall Rock**, hanging wall of the Lady Franklin Mine, Kingston, New Mexico. M. Thompson. January 5, 1888.

9826. **Wall Rock**, foot wall of the Lady Franklin Mine, Kingston, New Mexico. M. Thompson. January 5, 1888.

9827. **Dendrites**, of oxide of manganese on volcanic ash. Volcano, Amador County, California. January 6, 1888.

9828. **Selenite Crystals** (hydrous sulphate of calcium), North Jackson, Ohio. M. Braverman. January 6, 1888.

These crystals are remarkable for having other distinct crystals inside of them.

9829. **Chrysoprase** (quartz colored by nickel), a semi-precious stone, from near Visalia, Tulare County, California. M. Braverman. January 6, 1888.

9830. **Serpentine**, Maryland. M. Braverman. January 6, 1888.

9831. **Fossil Coral**, favosites gothlandica, Norvell, Jackson County, Michigan. M. Braverman. January 6, 1888.

9832. **Lepidolite** (silicate of aluminum, potassium, and lithium), Kern County, California. M. Braverman. January 6, 1888.

9833. **Silver Ore** (argentiferous galena), Jubilee Mine, Illecillewaet, on the Canadian Pacific Railroad, British Columbia. Chas. Dundee. January 6, 1888.

9834. **Silver Ore** (argentiferous galena), Belfast Mine, Illecillewaet, British Columbia. Chas. Dundee. January 6, 1888.

9835. **Silver Ore** (argentiferous galena), Marion Mine, Illecillewaet, British Columbia. Chas. Dundee. January 6, 1888.

9836. **Gold Quartz**, Juniper Mine, Poverty Hill, Tuolumne County, California. E. Fischer. January 6, 1888.

9837. **Wall Rock**, Juniper Mine, Poverty Hill, Tuolumne County, California. E. Fischer. January 6, 1888.

9838. **Diamond** (rough), Volcano, Amador County, California. January 6, 1888.

9839. **Fossils**, five miles from San Benito P. O., San Benito County, California. E. A. Pierce. January 6, 1888.

These fossils, which are quite abundant at the locality given, have been determined by Professor Angelo Heilprin to be Polyzoan colonies (moss polyps), probably referable to the genus Escharella, and closely related to forms now living, which encrust stones, worm tubes, etc.

9840. **Coal**—Anthracite, Crested Buttes, Gunnison County, Colorado. Edward E. Chever.

9841. **Chalcanthite** (native hydrous sulphate of copper), Bluestone Mine, Walker River Range, Lyon County, Nevada. John D. Ludwig.

9842. **Opium pipe-bowl**, of porcelain. Japan. J. Z. Davis. January 16, 1888.

9843. **Coal.** Alaska. E. Boggs. January 26, 1888.

This is a lignite of very good quality.

9844. **Silver Ore.** Four specimens rich ore, chiefly sulphide, with a little chloride, Ruby Hill, White Pine County, Nevada. C. F. Allen. February 4, 1888.

9845. **Gold Quartz,** Golden Gate Mine, New River District, Trinity County, California. R. Gibson. February 6, 1888.

9846. **Silver Ore,** with gold, Wilson Mine, Wagontown, near Silver City, Idaho. A. E. Walton. February 6, 1888.

9847. **Diatomaceous Earth,** Eureka, Humboldt County, California. C. Bachelder. February 6, 1888.

9848. **Clay,** from bluff at Port Townsend, Washington Territory. Geo. Davidson. February 6, 1888.

9849. **Rock Specimen,** Calico, San Bernardino County, California. Lowry Silver. February 6, 1888.

9850. **Clay,** near Halleck, San Bernardino County, California. L. F. Norman. February 6, 1888.

9851. **Iron Ore,** Fresno County, California. R. Reynolds. February 6, 1888.

9852. **Iron Ore**—Magnetite, Los Angeles County, California. John R. Wolcott. February 6, 1888.

9853. **Silver Ore** (sulphide of silver in kaolin), Idaho. Melville Attwood. February 6, 1888.

9854. **Mirabilite** (hydrous sulphate of sodium), San Bernardino County, California. J. H. Plant. February 6, 1888.

9855. **Limestone,** Woodford's, Alpine County, California. E. Barnes. February 6, 1888.

9856. **Limestone,** two specimens, six miles west of Portersville, Tulare County, California. J. D. Field. February 6, 1888.

9857. **Limestone,** Julian, San Diego County, California. H. O. Sickler. February 6, 1888.

9858. **Coal,** Elder Creek, thirty miles from Red Bluff, Tehama County, California. February 6, 1888.

9859. **Building Stone,** Campo Seco, Calaveras County, California. Morton A. Edwards. February 6, 1888.

9860. **Auriferous Gravel,** French Corral, Nevada County, California. February 6, 1888.

9861. **Wall Rock,** Brunswick Mine, Grass Valley, Nevada County, California. February 6, 1888.

In this mine the hanging and foot walls are both of the same rock.

9862. **Limestone,** and two samples of lime made from it, Sonoma County Lime Works, Little Sulphur Creek, near Geyserville, Sonoma County, California. A. H. Ingham. February 8, 1888.

9863. **Fossiliferous Rock,** vicinity of coal veins, Tehama County, California. February 8, 1888.

9864. **Coal,** two-foot vein, T. 33 N., R. 1 E., Sec. 28, Tehama County, California. February 8, 1888.

9865. **Coal,** T. 33 N., R. 2 W., Sec. 12, Tehama County, California. February 8, 1888.

Four specimens, from the upper, middle, and lower seams, respectively, and one named "best."

9866. **Coal,** T. 35 N., R. 1 W., Secs. 14 and 17, Tehama County, California. February 8, 1888.

9867. **Coal,** T. 33 N., R. 1 W., Sec. 5, on L. Eiler's ranch, Tehama County, California. February 8, 1888.

9868. **Coal,** T. 37 N., R. 1 W., Tehama County, California. February 8, 1888.

9869. **Gypsum** (hydrous sulphate of calcium), T. 26 S., R. 17 E., M. D. M., Kern County, California. February 9, 1888.

9870. **Soda,** Carbonate of soda, produced by the solar evaporation of the water of Owens Lake, Inyo County, California. L. F. J. Wrinkle, Superintendent. February 10, 1888.

9871. **Building Stone**, coarse-grained sandstone, San Fernando, Los Angeles County, California. From the Company. February 14, 1888.

9872. **Building Stone**, fine-grained sandstone, San Fernando, Los Angeles County, California. From the Company. February 14, 1888.

9873. **Building Stone**, Henly, Siskiyou County, California. February 14, 1888.

9874. **Marble**, Colton, San Bernardino County, California. From the Company. February 14, 1888.

9875. **Building Stone**, probably indurated volcanic ash, Campo Seco, Calaveras County, California. Morton A. Edwards. February 14, 1888.

9876. **Cinnabar** (sulphide of mercury), Bradford Mine, Lake County, California. J. Z. Davis. February 20, 1888.

9877. **Indian Relic**, found five feet below the surface of the ground, at an old Indian camping place, Mud Springs, El Dorado County, California. J. B. Richardson. February 20, 1888.

9878. **Ancient Carved Ring of Nephrite**, which is in a state of decay, China. J. Z. Davis. February 20, 1888.

9879. **Stem of the Gorgonia Coral**, New Guinea. J. Z. Davis. February 20, 1888.

9880. **Gold Quartz**, with free gold, from the mine of G. B. Brajevich, Pinal County, Arizona. W. S. Keyes. February 27, 1888.

9881. **Bismutite** (hydrated carbonate of bismuth), Big Pine, Inyo County, California. H. Grover. February 27, 1888.

9882. **Diatomaceous Earth**, Eureka County, Nevada. Wm. Whaling. March 3, 1888.

9883. **Chromic Iron**, Tomales Bay, Marin County, California. H. R. Bailey. March 3, 1888.

9884. **Pyrite** (bisulphide of iron), Oregon Gulch, Trinity County, California. Wm. M. Lowe. March 3, 1888.

9885. **Auriferous Vein Matter,** Campo Seco, Calaveras County, California. D. Bazet. March 3, 1888.

9886. **Gold Quartz,** Oak Bar, Siskiyou County, California. Ledge twenty feet wide. John Barton. March 3, 1888.

9887. **Auriferous Arsenical Pyrite** (mispickel), thirty miles due east of San Diego, California. H. Johnston & Son. March 3, 1888.

9888. **Auriferous Vein Matter**—Quartzose rock, with calcite and pyrite, eight miles from San Francisco, near the San Mateo County line. I. L. Sayres. March 3, 1888.

9889. **Wall Rock,** hanging wall, Crown Point Mine, Grass Valley, Nevada County, California. A. Gauthier. March 3, 1888.

9890. **Gold Quartz,** Crown Point Mine, Grass Valley, Nevada County, California. A. Gauthier. March 3, 1888.

9891. **Wall Rock,** foot wall, Crown Point Mine, Grass Valley, Nevada County, California. A. Gauthier. March 3, 1888.

9892. **Gypsum** (hydrous sulphate of calcium), Cholame, San Luis Obispo County, California. A. P. W. Gough. March 3, 1888.

9893. **Calcite** (carbonate of calcium), of very peculiar structure, from a vein four feet thick, in serpentine, fifteen miles from San Francisco. F. Rihrman. March 3, 1888.

9894. **Coal,** Cox's Bar, Trinity River, Trinity County, California. W. C. Chapin. March 3, 1888.

9895. **Building Stone,** San Rafael, Marin County, California. T. J. Elliott. March 3, 1888.

9896. **Building Stone.** Three dressed specimens, from the quarries of J. H. Francis, near Calistoga, Napa County, California. March 3, 1888.

This stone, which is quite soft when first quarried, and easily wrought, hardens on exposure to the air, and has been used quite extensively in the neighborhood of Calistoga.

9897. **Chalcedony,** one and one half miles east of the University, Berkeley, California. A. Blanc. March 5, 1888.

9898. **Auriferous Metamorphic Rock,** Mission Hills, San Francisco, California. Mrs. F. Wenck. March 5, 1888.

9899. **Auriferous Vein Matter,** carrying silver, Carlisle Mine, Grant County, New Mexico. Geo. Skean. March 17, 1888.

The specimen is from the 300-foot level. The ore is worked first for the free gold, and the concentrates smelted for the lead and silver.

9900. **Rhodochromite** (kämmererite, a variety of penninite; hydrous silicate of aluminum, iron, and magnesium), Green Valley, Dutch Flat, Placer County, California. W. Lindgren. March 17, 1888.

9901. **Gypsum** (hydrous sulphate of calcium), Lovelocks, Nevada. J. Z. Davis. March 17, 1888.

9902. **Marble,** twenty specimens of various colors, cut and polished, Mono Marble Quarries, Topaz, Mono County, California. W. E. Lindsey. March 28, 1888.

9903. **Antimony Ore**—Stibnite, Wardner, Shoshone County, Idaho. Allen G. White March 30, 1888.

9904. **Beauxite** (hydrous oxide of aluminum and iron), Arles, France. M. Braverman. April 2, 1888.

9905. **Quartz and Agate,** Iron Mountain, Tulare County, California. M. Braverman. April 2, 1888.

9906. **Magnesite** (carbonate of magnesia), Iron Mountain, Tulare County, California. M. Braverman. April 2, 1888.

9907. **Aragonite** (carbonate of calcium), Three Rivers, Tulare County, California. M. Braverman. April 2, 1888.

9908. **Pyrite** (bisulphide of iron), of various irridescent tints, 900-foot level of the Mt. Diablo Mine, Candelaria, Nevada. O. Pierce. April 2, 1888.

9909. **Wulfenite** (molybdate of lead) in auriferous Rhyacolite (a variety of feldspar), Mammoth Mine, near Tucson, Arizona. Arthur Price. April 4, 1888.

9910. **Building Stone,** from a quarry one and one half miles fron Napa, Napa County, California. John R. Coe. April 6, 1888.

Has been used to some extent, and can be had in any desired quantity.

9911. **Silicified Bone,** from an Indian shell mound on C. Crow's ranch, two miles west of Lafayette, Contra Costa County, California. Stanley Huff. April 9, 1888.

It was found underneath the stump of a very large oak tree, and was the only piece in this condition. The space formerly occupied by the marrow is now filled with chalcedony.

9912. **Asphaltum** (refined), Buena Vista, Kern County, California. J. Querolo. April 9, 1888.

9913. **Cerussite** (carbonate of lead), very fine specimen, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9914. **Silver Ore** (argentiferous galena and zinc-blende), with wire silver, Stevens Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9915. **Silver Ore** (argentiferous galena), partly changed to "hard carbonate," McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9916. **Silver Ore**—"Hard carbonate," McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9917. **Silver Ore**—"Sulphide ore," Stevens Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9918. **Silver Ore**—Ochreous, McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9919. **Silver Ore**—"Crystallized lead carbonate," McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9920. **Silver Ore**—Native silver on sulphides of lead and iron, Stevens Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9921. **Silver Ore**, with native silver, McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9922. **Silver Ore**—Sulphides of iron, zinc, and lead carrying silver, Moyer Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9923. **Silver Ore**—"Hard carbonate," McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9924. **Silver Ore**—Nodule of galena partly changed to cerussite, McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9925. **Silver Ore**—"Hard carbonate," McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens, April 10, 1888.

9926. **Silver Ore**, showing **Native Silver**, McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9927. **Silver Ore**—"Hard carbonate," McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9928. **Silver Ore**—"Hard carbonate," McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9929. **Silver Ore**—"Typical hard carbonate," McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9930. **Silver Ore**—"Galena partly changed to carbonate," McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9931. **Silver Ore**—"Lead and zinc sulphides," Moyer Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9932. **Silver Ore**—"Sulphide ore," Stevens Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9933. **Sliver Ore**—"Hard carbonate," McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens April 10, 1888.

9934. **Silver Ore** (carbonate of lead rich in silver), McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9935. **Manganese Ore**—Pyrolusite, McKeon Shaft, Iron Silver Mine, Leadville, Colorado. W. Arens. April 10, 1888.

9936. **Dendrites,** Leadville, Colorado. W. Arens. April 10, 1888.

9937. **Silver Ore,** near Seattle, Washington Territory. H. C. Frank. April 13, 1888.

9938. **Phosphate of Lime,** Dunlap, Fresno County, California. P. W. Rider. April 13, 1888.

9939. **Gypsum** (hydrous sulphate of calcium), Salt River, Arizona. Q. C. Tapps. April 13, 1888.

9940. **Iron Ore**—Specular iron, Barstow, San Bernardino County, California. P. J. Bugbee. April 13, 1888.

9941. **Slate,** of good quality, Chili Bar Slate Quarry, El Dorado County, California. W. D. Perine. April 16, 1888.

9942. **Clay Slate,** with dendritic markings, from a tunnel through the Siskiyou Mountains, on the line of the California and Oregon Railroad. Frank Greatzer. April 16, 1888.

9943. **Indian Mortar and Pestle,** of large size, White Plains, Churchill County, Nevada. Walter Schmidt. April 18, 1888.

9944. **Indian Grinding Stone and Muller,** for crushing seeds used for food, White Plains, Churchill County, Nevada. Walter Schmidt. April 18, 1888.

9945. **Shell Conglomerate,** containing a considerable proportion of phosphate of lime; could be used as a fertilizer; said to be in large quantity; White Plains, Churchill County, Nevada. Walter Schmidt. April 18, 1888.

9946. **Clay,** containing a large proportion of quartz sand, White Plains, Churchill County, Nevada. Walter Schmidt. April 18, 1888.

9947. **Pumice Stone,** White Plains, Churchill County, Nevada. Walter Schmidt. April 18, 1888.

9948. **Coralline Rock,** a species of limestone, composed of remains of a coral formation, White Plains, Churchill County, Nevada. Walter Schmidt. April 18, 1888.

9949. **Halite** (chloride of sodium), crystallized on hematite, Calico, San Bernardino County, California. Lowry Silver. April 23, 1888.

9950. **Gypsum**—Land plaster, sample of commercial article, furnished by the Pacific Gypsum and Fertilizer Company of Stockton, California. From the Scott Gypsum Mine, Nevada. April 23, 1888.

9951. **Sand,** Livermore Coal Mine, Alameda County, California. D. Guttman. April 27, 1888.

9952. **Sand,** Palisade, Nevada. C. E. Ferguson. April 27, 1888.

9953. **Diatomaceous Earth,** two miles from Lompoc, Santa Barbara County, California. Milton E. Blanchard. April 27, 1888.

9954. **Iron Ore**—Hematite, with barite, Calico, San Bernardino County, California. Lowry Silver. April 27, 1888.

9955. **Coal,** Tolman's Claim, San Benito County, California. D. G. P. Tolman. April 28, 1888.

9956. **Coal,** Vicetas Valley, near Andrew's Ranch, San Benito County, California. Dr. G. W. Leek. April 28, 1888.

9957. **Clay,** of very fine quality, Sonoma County, California. C. F. Walker. April 28, 1888.

9958. **Calcite**—fine grained, resembling lithographic stone, Santa Barbara, California. D. Morgan White. April 28, 1888.

9959. **Hematite**—reniform (sesquioxide of iron), Mary's Creek Mountain, Palisade, Nevada. C. E. Ferguson. April 28, 1888.

9960. **Silver Ore,** American Gulch, Cœur D'Alene District, Idaho. P. Markson. April 28, 1888.

9961. **Salt,** of superior quality, Crystal Salt Works, White Plains, Churchill County, Nevada. Walter Schmidt. April 28, 1888.

9962. **Copper**—Native, Santa Rosalia del Carmen Mines, North Boleo, Santa Agueda, Lower California, Mexico. Archibald B. McCaw. May 4, 1888.

9963. **Copper Ore**—Cuprite, Santa Rosalia del Carmen Mines, North Boleo, Santa Agueda, Lower California, Mexico. Archibald B. McCaw. May 4, 1888.

9964. **Copper Ore**—Malachite with some azurite and cuprite, Santa Rosalia del Carmen Mines, North Boleo, Santa Agueda, Lower California, Mexico. Archibald B. McCaw. May 4, 1888.

9965. **Fossil Shells,** used as a flux in smelting the ores Nos. 9963–64, found in large quantities near the mines of Santa Rosalia del Carmen, North Boleo, Santa Agueda, Lower California, Mexico. Archibald B. McCaw. May 4, 1888.

9966. **Wall Rock,** Ready Relief Mine, Julian District, San Diego County, California. May 5, 1888.

9967. **Gold Quartz**, Owens Mine, Julian District, San D ego County, California. May 5, 1888.

9968. **Gold Quartz**, Washington Mine, the first min opened in Julian District, San Diego County, Ca ifornia. May 5, 1888.

9969. **Wall Rock**, Washington Mine, Julian District, Sa Diego County, California. May 5, 1888.

9970. **Gold Quartz**, Blue Hill Mine, two miles south o Julian, San Diego County, California. May 5, 1888

9971. **Wall Rock**, Blue Hill Mine, two miles south of Jul ian, San Diego County, California. May 5, 1888

9972. **Gold Quartz**, rich in free gold, from a new discov ery, four miles below Julian, San Diego County Califorma. May 5, 1888.

9973. **Gold Quartz**, Kentucky Consolidated Mine, Sierra City, Sierra County, California. F. X. La Bonte May 8, 1888.

9974. **Stalactite**, from a recently discovered cave, known as Clough's Cave, about twenty-five miles east of Visalia, Tulare County, California. M. Braverman. May 10, 1888.

9975. **Coal**—Bituminous, Queen Charlotte's Island, British Columbia. Goodall, Perkins & Co. May 10, 1888.

9976. **Rock Specimen**—Indurated clay, with a large proportion of silica, occurs on the line of the Columbia and Puget Sound Railroad, Washington Territory. Goodall, Perkins & Co. May 10, 1888.

9977. **Gold Quartz**, Black Mine (known as the Riley and Bliss Mine), Squaw Creek District, Shasta County, California. A. B. McCaw. May 10, 1888.

9978. **Manganese Ore**—Pyrolusite, thirty miles south of Julian, San Diego County, California. Jos. Marks. May 10, 1888.

9979. **Silver Ore**, three miles south of Julian, San Diego County, California. Jos. Marks. May 10, 1888.

This specimen is rich in chloride of silver, and contains a large proportion of carbonate and oxide of copper.

9980. **Copper Ore**—Malachite, three miles south of Julian, San Diego County, California. Jos. Marks. May 10, 1888.

9981. **Maltite** (arsenide of cobalt and nickel), with arseniate of nickel, Lassen County, California. L. L. Frost. May 14, 1888.

9982. **Marble**—White, from a ledge three hundred feet wide and two and one half miles long, near Topaz, Mono County, California. W. E. Lindsey. May 19, 1888.

9983. **Candle and Mould**, used by Mexican miners in Chihuahua, Mexico. E. E. Cunningham. May 31, 1888.

9984. **Chalcocite** (sulphide of copper), Agua de Caliente, Sinaloa, Mexico. E. E. Cunningham. May 31, 1888.

9985. **Silver Ore**, showing native silver, Rialito, Chihuahua, Mexico. E. E. Cunningham. May 31, 1888.

9986. **Steatite** (hydrous silicate of magnesium), five polished specimens of various colors, near Oposura, Moctezuma District, Sonora, Mexico. J. H. Crossman. May 31, 1888.

9987. **Obsidian**, Rucker Cañon, Chiricahua Mountains, Cochise County, Arizona. Fred. Grundy. May 31, 1888.

9988. **Coal**—Anthracite, San Simeon Valley, Chiricahua Mountains, Cochise County, Arizona. Fred. Grundy. May 31, 1888.

9989. **Rock Specimens**, inclosing rock of No. 9988, San Simeon Valley, Chiricahua Mountains, Cochise County, Arizona. Fred. Grundy. May 31, 1888.

9990. **Obsidian** (mistaken for coal), and inclosing rocks, Cloverdale, Aminas Valley, southwest corner of New Mexico. Fred. Grundy. May 31, 1888.

9991. **Piece of an Oak Tree** (an overgrowth), showing the reverse of surveyor's marks put on the tree itself; the marks on the tree are—T. 21 N., R. 4 E., S. 1, B. T. From the Big Bend Tunnel and Mining Company, Big Bend, Butte County, California. May 31, 1888.

9992. **Auriferous Vein Matter,** Oneida Mine, near Soda Springs, Idaho. J. C. Nealon. May 31, 1888.

A remarkable and interesting specimen showing on one side free gold on garnet crystals, and on the other side gold on epidote crystals.

9993. **Auriferous Vein Matter**—Talc, Hidden Treasure Mine, Nimshew, Butte County, California. L. J. Lewis. May 31, 1888.

9994. **Rock Specimen**—Quartzose rock with calcite, containing graphite in small quantity, Stonewall Mine, San Diego County, California. B. W. Tarwater. May 31, 1888.

9995. **Glaucophane** (silicate of aluminum, iron, magnesium, and sodium), Arizona. Mrs. H. H. Day. May 31, 1888.

9996. **Rock Specimen**—Conglomerate of serpentine and calcite, which overlies auriferous gravel deposits in Josephine County, Oregon. Wm. Q. Brown. May 31, 1888.

9997. **Gypsum** (sulphate of calcium), Nantan, San Bernardino County, California. Jones Taylor. May 31, 1888.

9998. **Building Stone**—Brownstone, dressed specimen, Sespe, Ventura County, Callifornia. Los Angeles Granite and Brownstone Company. May 31, 1888.

9999. **Building Stone**—Brownstone, dressed specimen, Sespe, Ventura County, California. Los Angeles Granite and Brownstone Company. May 31, 1888.

10000. **Building Stone**—Fine-grained green sandstone, dressed specimen, Ventura County, California. Los Angeles Granite and Brownstone Company. May 31, 1888.

10001. **Iron Ore**—Magnetite and Hematite, of good quality. Near Susanville, Lassen County, California. L. L. Frost. June 1, 1888.

10002. **Granite**—Light. Temecula Granite Quarry, three miles south of Julian, San Diego County, California. John G. Capron. June 1, 1888.

10003. **Granite**—Dark. Temecula Granite Quarry, three miles south of Julian, San Diego County, California. John G. Capron.

10004. **Lignite.** Millrace of the Santiam Lumber Company's mill at Mill City, Marion County, Oregon. H. B. Callahan. June 1, 1888.

10005. **Section of Iron Pipe,** laid for conveying water at the works of the Sulphur Bank Quicksilver Mining Company, Lake County, California. Entirely filled with cinnabar and sulphur deposited from the water. Melville Attwood. June 8, 1888.

10006. **Silver Ore.** Calico, San Bernardino County, California. June 19, 1888.

10007. **Silver Ore.** Waterloo Mine, Calico, San Bernardino County, California.

10008. **Silver Ore.** Rich. Waterloo Mine, Calico, San Bernardino County, California.

10009. **Silver Ore.** Very rich, from lower workings of Waterloo Mine, Calico, San Bernardino County, California.

10010. **Silver Ore.** Very rich. Waterloo Mine, Calico, San Bernardino County, California.

10011. **Silver Ore.** Waterloo Mine, Calico, San Bernardino County, California.

10012. **Silver Ore.** Waterloo Mine, Calico, San Bernardino County, California.

10013. **Wall Rock,** Foot wall of Waterloo Mine, Calico, San Bernardino County, California.

10014. **Silver Ore** (argentiferous galena), from J. W. Lasswell's Mine, Daggett, San Bernardino County, California. June 19, 1888.

10015. **Gold Quartz.** Rich in free gold and **Petzite** (telluride of gold), with **Altaite** (telluride of lead), and traces of **Hessite** (telluride of silver), Salmon Mountain Mine, Coos County, Oregon. A. H. Moore. June 20, 1888.

10016. **Gold,** in iron-jasper with quartz. Coffee Mill Mine, Robinson's Ferry, Tuolumne County, California. T. F. McArdle. June 20, 1888.

10017. **Steatite** (hydrous silicate of magnesium), two specimens. Robinson's Ferry, Tuolumne County, California. T. F. McArdle. June 20, 1888.

10018. **Iron Ore**—Magnetite, Santa Barbara, California. L. Yates. June 20, 1888.

10019. **Petzite** (telluride of gold), with free gold. Bonanza Mine, Sonora, Tuolumne County, California. J. Z. Davis. June 29, 1888.

10020. **Gold Quartz.** Arrow-head District, San Bernardino County, California. E. Wolleb. June 29, 1888.

10021. **Gold,** from half a teaspoonful of fine dirt, Hayden Hill, Lassen County, California. June 29, 1888.

10022. **Gold Quartz.** Washington Mine, Old Diggings District, Middle Creek, Shasta County, California. A. B. Paul. June 29, 1888.

10023. **Gold Quartz.** Empire Mine, Old Diggings District, Middle Creek, Shasta County, California. A. B. Paul.

10024. **Gold Quartz.** L. Bird Mine, Old Diggings District, Middle Creek, Shasta County, California. A. B. Paul.

10025. **Gold Quartz.** Prize Mine, Old Diggings District, Middle Creek, Shasta County, California. A. B. Paul.

10026. **Gold Quartz.** Hope Mine, Old Diggings District, Middle Creek, Shasta County, California. A. B. Paul.

10027. **Gold Quartz.** Grand Prize Mine, Old Diggings District, Middle Creek, Shasta County, California. A. B. Paul.

10028. **Gold,** in crystals, on Rhyacolite with Enargite also in crystals. (Two specimens.) Little Annie Mine, Summitville, Colorado. J. B. Farish. July 3, 1888.

10029. **Auriferous Vein Matter,** containing telluride of gold. (Two specimens.) Grey Eagle Mine, Left Hand Creek, Bowlder County, Colorado. July 3, 1888. J. B. Farish.

10030. **Graphite,** in six-sided crystals on coal. (Three specimens.) Red River Cañon, Colfax County, New Mexico. J. B. Farish. July 3, 1888.

10031. **Chromic Iron.** Josephine County, Oregon. S. T. Loot. July 3, 1888.

10032. **Silver Ore,** Ruby Creek, Cœur d'Alene District, Shoshone County, Idaho. J. F. Ruark. July 3, 1888.

10033. **Gold,** on argillaceous and quartz gangue. Taken from that portion of the North Spring Hill vein lying south of the north crosscut, at a depth of 727 feet. Keystone Mine, Amador County, California. From the Company. July 3, 1888.

10034. **Gold Quartz,** showing free gold, Gold King Mine, San Diego County, California. July 3, 1888.

10035. **Gold Quartz**, Gold Queen Mine, San Diego County, California. July 3, 1888.

10036. **Gold Quartz**, rich in free gold, Antelope Mine, Banner, Julian District, San Diego County, California. July 3, 1888.

10037. **Chalcocite** (sulphide of copper), Potrero, San Diego County, California. W. H. Cushing. July 3, 1888.

10038. **Molybdenite** (sulphide of molybdenum), associated with malachite and chalcopyrite, Potrero, San Diego County, California. W. H. Cushing. July 3, 1888.

10039. **Graphite**, Potrero, San Diego County, California. W. H. Cushing.

10040. **Copper Ore**, in gangue of barite, Needles, Sacramento District, San Bernardino County, California. Frank Howard. July 9, 1888.

10041. **Aragonite** (carbonate of calcium), three and one half miles from Dunsmuir, Siskiyou County, California. July 9, 1888.

10042. **Gold Quartz**, Stonewall Mine, Julian District, San Diego County, California. July 9, 1888.

10043. **Cinnabar** (sulphide of mercury), Santa Rosa, on the line between the States of Mexico and Morelos, Mexico. This mine was opened in 1718, and was the first quicksilver mine worked in North America. J. W. C. Maxwell. July 10, 1888.

10044. **Livingstonite** (sulph-antimonide of mercury), Trinidad Mine, Huitzuco, State of Guerrero, Mexico. J. W. C. Maxwell.

10045. **Salt**, Salt Lake, eastern end of the Tehachapi Summit Valley, Kern County, California. Judge P. D. Green. July 10, 1888.

This salt is in regular use for domestic purposes, being sufficiently pure as found.

10046. **Auriferous Gravel** (hard cement), Dardanelles Drift Mines, Placer County, California. August 9, 1888.

10047. **Copper Ore**, with a high percentage of silver. Kootenai, British Columbia. R. D. Atkins. August 10, 1888.

These ores contain from $60 to $1,600 per ton, according to assays made at the Selby Smelting Works, and by the Colonial Government Assayer.

10048. **Copper Ore.** Croppings of lode. Kootenai, British Columbia. R. D. Atkins. August 10, 1888.

10049. **Wall Rock**, hanging wall of No. 10047. R. D. Atkins.

10050. **Wall Rock**, foot wall of No. 10047. R. D. Atkins.

10051. **Silver Ore** (argentiferous galena, with some copper), Kootenai, British Columbia. R. D. Atkins.

10052. **Epidote** on quartz, with calcite. Kootenai, British Columbia. R. D. Atkins.

10053. **Porphyry**—Dioritic, showing large crystals of hornblende and feldspar, Kootenai, British Columbia. R. D. Atkins.

10054. **Coal**—Impure Anthracite, near Oroville, Butte County, California. W. E. Duncan. August 30, 1888.

Analysis by State Mining Bureau:

Fixed carbon	44.25
Volatile carbonaceous matter	4.25
Moisture	.50
Ash	51.00
	100.00

10055. **Asbestus**, Minersville, Trinity County, California. August 30, 1888.

10056. **Copper Ore—Malachite**, Copper Queen Mine, Bisbee, Arizona. Lewis Williams. August 31, 1888.

10057. **Copper Ore**—Malachite and Azurite, Copper Queen Mine, Bisbee, Arizona. Lewis Williams. August 31, 1888.

10058. **Portion of a Pine Tree**, which formerly stood at the head of Carson Cañon, Alpine County, California, on the main divide of the Sierras, the watershed between California and Nevada, and on which the celebrated scout Kit Carson cut his name in 1844, and which, as can be seen on the specimen, is still distinctly legible. The tree was felled and this portion cut out by Messrs. Wm. Thornburg and J. F. O'Gorman. September 5, 1888.

10059. **Gold Quartz**, showing free gold. From a prospect five miles south of Georgetown, near the old Placerville road, El Dorado County, California. Hon. Prentiss Maslin. September 12, 1888.

10060. **Building Stone.** Six specimens from the quarries of the Los Angeles Granite and Brownstone Company, Sespe Creek, Ventura County, California. September 12, 1888. No. 1, bowlders in creek; No. 2, first ledge below upper derrick; No. 3, second ledge below upper derrick; No. 4, Devil's Gate ledge; No. 5, ledge 300 yards below No. 4; No. 6, bowlders in creek.

10061. **Building Stone.** Dressed specimen from Coronado Island. Hanbury & Garvey. September 12, 1888.

10062. **Building Stone.** Dressed specimen, Chukanut Bay, Puget Sound, Washington Territory. R. H. Sinton. September 12, 1888.

10063. **Marble** (polished), Woodward and Willet's quarry, Roseburg, Douglas County, Oregon. C. Fletcher. September 12, 1888.

10064. **Umber.** A ferruginous earth; may be used as a pigment. Siskiyou County, California. September 12, 1888.

10065. **Indian Relics.** Figure of a bird, carved from a silicious stone, and nodule of hematite, from an Indian grave in Siskiyou County, California. September 12, 1888.

10066. **Chalcedony,** of very peculiar structure, Siskiyou County, California. September 12, 1888.

10067. **Aragonite** (carbonate of calcium), deposited in a water trough in the Mammoth Tunnel, Alpine District, Alpine County, California. Gen. John J. Rice. September 12, 1888.

10068. **Salt,** from the works of the Inyo Development Company at Owens Lake, Inyo County, California. September 12, 1888.

10069. **Lava,** from a volcanic plateau east of Round Valley, Mono County, California.

10070. **Calcite** (carbonate of calcium), Hot Springs, Hot Creek, Mono County, California.

10071. **Lava,** two specimens, from bluff out of which three quarters of the water of Owens River flows. Mono County, California.

10072. **Obsidian,** two varieties, one mile southeast of Casa del Diablo Springs, Mono County, California.

10073. **Obsidian**—Brecciated, near Casa del Diablo Springs, Mono County, California. September 12, 1888.

10074. **Gold Quartz,** showing free gold, Last Chance Mine, Los Burros District, Monterey County, California. W. D. Cruikshank. September 17, 1888.

These specimens are from near the surface.

10075. **Gold Quartz,** Last Chance Mine, Los Burros District, Monterey County, California. W. D. Cruikshank.

These specimens are from the bottom of the shaft, and below the water level.

10076. **Sand.** Eighteen varieties of colored sands thrown up by the earthquake at Charleston, South Carolina, August 31, 1886. W. L. Watts.

10077. **Indian Relic,** in unusually perfect condition, found in Corte Madera Creek, San Mateo County, California. J. E. Ralston.

10078. **Bill of Exchange** for $500, issued by Adams & Co., San Francisco, 1850. G. W. Ryninger.

10079. **Key**, from old Spanish Mission, on the San Julian Ranch, Gaviota, Santa Barbara County, California. E. McNeely.

10080. **Limestone**, and Lime of good quality made from it. From the works of the Summit Lime Company, Tehachapi, Kern County, California. Mrs. D. B. Rogers. September 18, 1888.

10081. **Gypsum** (hydrous sulphate of calcium). Kern County, California. Mrs. D. B. Rogers.

10082. **Bismuthinite** (sulphide of bismuth). Mariposa Mine, Rosario District, Sinaloa, Mexico. Gus Peterson. September 24, 1888.

10083. **Gold Quartz**, Harris District, Juneau, Alaska. J. A. Johnston. October 3, 1888.

10084. **Gold Quartz**, rich in free gold. San Feliciano placers, Los Angeles County, California. W. W. Jenkins. October 3, 1888.

10085. **Silver Ore**—very rich. Rainbow Mine, Resting Springs District, Inyo County, California. October 4, 1888.

10086. **Gold Quartz.** Pine Nut Mine, twelve miles southeast of Sonora, Tuolumne County, California. Louis Blanding.

10087. **Gold Quartz.** Carlotta Mine, nine miles east of Sonora, Tuolumne County, California. Louis Blanding.

10088. **Gold Quartz**, New York Mine, Cedar District, Los Angeles County, California. Jas. O'Riley. October 5, 1888.

10089. **Gold Quartz**, showing free gold, Padre Mine, Gleason District, Los Angeles County, California. J. G. Green. October 5, 1888.

10090. **Gold Quartz**, Red Rover Mine, Cedar District, Los Angeles County, California. Wm. Roberts. October 5, 1888.

10091. **Silver Ore**, Gambetta Mine, Solo District, San Bernardino County, California. October 5, 1888.

10092. **Silver Ore**, Lydia Hatzel Mine, Solo District, San Bernardino County, California. October 5, 1888.

Specimen taken 70 feet from mouth of Campbell's tunnel.

10093. **Silver Ore**, Gunsight Mine, Resting Springs District, Inyo County, California. October 5, 1888.

Specimen at 200 feet depth.

10094. **Silver Ore**, Mabel Mine, Resting Springs District, Inyo County, California. October 5, 1888.

In this ledge are three rich ore streaks; this specimen is from the first streak.

10095. **Silver Ore**, Rainbow Mine, Resting Springs District, Inyo County, California. October 5, 1888.

10096. **Silver Ore.** Shiloh Mine, Gladstone District, Inyo County, California. October 5, 1888.

10097. **Silver Ore.** Mountain Mine, Mountain District, Los Angeles County, California. October 5, 1888.

10098. **Silver Ore.** Lydia Hatzel Mine, Solo District, San Bernardino County, California. October 5, 1888.

10099. **Calcite.** Clark's Mills, Charleston Mountain, Nevada. October 5, 1888.

10100. **Sandstone**, worn by drifting sand. Clark's Fork, Amargosa River, Inyo County, California. October 5, 1888.

10101. **Silver Ore.** Gambetta Mine, Solo District, San Bernardino County, California. October 5, 1888.

10102. **Silver Ore**, average ore, Rainbow Mine, Resting Springs District, Inyo County, California. October 5, 1888.

Specimen from a depth of twenty-five feet.

10103. **Silver Ore**, Mabel Mine, Resting Springs District, Inyo County, California. October 5, 1888.
Specimen from third ore streak.

10104. **Silver Ore**, Mabel Mine, Resting Springs District, Inyo County, California. October 5, 1888.
Specimen from second ore streak.

10105. **Silver Ore** (two specimens), Ibex Mine, Saratoga District, Inyo County, California. October 5, 1888.

10106. **Silver Ore**—rich, Ibex Mine, Saratoga District, Inyo County, California. October 5, 1888.

10107. **Silver Ore** (argentiferous galena), Gunsight Mine, Resting Springs District, Inyo County, California. October 5, 1888.
This piece of "float" is the first specimen found in 1864, and which led to the search for and discovery of the mine.

10108. **Silver Ore** (argentiferous galena), Gunsight Mine, Resting Springs District, Inyo County, California. October 5, 1888.
Taken from a depth of four hundred feet.

10109. **Silver Ore**, Ibex Mine, Saratoga District, Inyo County, California. October 5, 1888.
Said to assay $1,500 to the ton.

10110. **Silver Ore**, Gray Eagle Mine, Gladstone District, Inyo County, California. October 5, 1888.
Taken from a depth of seventy-five feet.

10111. **Silver Ore**, No. 3 Mine, Ivawatt Mountains, San Bernardino County, California. October 5, 1888.
Shows native silver.

10112. **Silver Ore**, Old Billy Mine, Silver Mountain District, Los Angeles County, California. October 5, 1888.

10113. **Partzite** (hydrous oxide of antimony), rich in silver and worked as a silver ore, Comet Mine, Blind Spring Hill District, Benton, Mono County, California. October 8, 1888.

4. **Silver Ore,** Comanche Mine, Blind Spring Hill District, Benton, Mono County, California. October 8, 1888.
   Specimen from below the water level.

5. **Auriferous Vein Matter,** showing free gold, Commercial Mine, Clover Patch District, three and one half miles east of the North Fork of Owens River, Mono County, California. October 8, 1888.

6. **Country Rock,** Oregon Nickel Mine, Riddle, Douglas County, Oregon. Will. Q. Brown. October 8, 1888. Principally serpentine and peridot.

7. **Auriferous Vein Matter,** Manzanita Mine, Sulphur Creek, Colusa County, California. October 8, 1888.

8. **Country Rock,** Manzanita Mine, Sulphur Creek, Colusa County, California. October 8, 1888.

9. **Fossiliferous Rock,** half a mile south from Manzanita Mine, Sulphur Creek, Colusa County, California. October 8, 1888.

0. **Quicksilver Ore** (three specimens), Manhattan Mine, Napa County, California. October 8, 1888.

1. **Rock Specimen,** cross dyke at Manhattan Mine, Napa County, California. October 8, 1888.

2. **Country Rock,** main ridge between the sandstone and serpentine, at the Manhattan and Knoxville Mines, Napa County, California. October 8, 1888.

3. **Quicksilver Ore** (three specimens), Sulphur Bank Mine, Lake County, California. October 8, 1888.

4. **Rock Specimen,** formation in which the mineral veins are found at the Sulphur Bank Mine, Lake County, California. October 8, 1888.

5. **Rock Specimen,** formation lying next to the mineral-bearing stratum at the Manhattan Mine, Napa County, California. October 8, 1888.

10126. **Aragonite** (carbonate of calcium), Sulphur Creek, Colusa County, California. October 8, 1888.

10127. **Chalcedony**, Manhattan Mine, Napa County, California. October 8, 1888.

10128. **Fossil Shells**—Tertiary, in silicious rock, from a cut on N. P. C. R. R., one half mile from Valley Ford, Sonoma County, California. October 8, 1888.

There is a cemetery at this locality in which human remains when interred in the soil become completely silicified, as has been proven by the exhumation of two corpses.

10129. **Rock Specimen.** Formation at the "Gas Wells," Sulphur Creek, Colusa County, California. October 8, 1888.

10130. **Sulphur**—Native, Sulphur Bank Mine, Lake County, California. October 8, 1888.

10131. **Sulphur**—Native, Manzanita Mine, Sulphur Creek, Colusa County, California. October 8, 1888.

10132. **Building Stone** (two varieties). Brown's quarry, near Calistoga, Napa County, California. October 8, 1888.

10133. **Clay.** Brown's Pottery, five miles east of Guerneville, Sonoma County, California. October 8, 1888.

Used for brick, tiles, and coarse ware.

10134. **Rock Specimen.** Kelseyville, Lake County, California. October 8, 1888.

Wells sunk in this formation yield considerable quantities of natural gas.

10135. **Graphite.** Pole Mountain, near Ingram's (Cazadero), Sonoma County, California. October 8, 1888.

10136. **Diatomaceous Earth.** Dry Creek, near Healdsburg, Sonoma County, California. October 8, 1888.

10137. **Quicksilver Ore.** Cloverdale Mine, fourteen miles east of Cloverdale, Sonoma County, California. October 8, 1888.

10138. **Quicksilver Ore**, Great Eastern Mine, Guerneville, Sonoma County, California. October 9, 1888.

10139. **Lignite.** Three quarters of a mile south of gas wells, Sulphur Creek, Colusa County, California. October 9, 1888.

10140. **Granite.** Porter's Point, west side of Tomales Bay, Marin County, California. October 9, 1888.

10141. **Feldspar** (orthoclase), occurring in the granite, (No. 10140), Porter's Point, west side of Tomales Bay, Marin County, California. October 9, 1888.

10142. **Iron Ore**, with copper pyrites, Mark West Springs, Sonoma County, California. October 9, 1888.

10143. **Clay**—Ferruginous. Mark West Springs, Sonoma County, California. October 9, 1888.

10144. **Copper Ore**—Chalcosite and Malachite, T. 10 N., R. 7 W., Lake County, California. Graham and Reed. October 9, 1888.

10145. **Copper Ore.** Sonoma Copper Mine, one half mile east of Tyrone Station, North Pacific Coast Railroad, Sonoma County, California. October 9, 1888.

10146. **Building Stone**—Trachytic Tufa. Quarry four miles northeast of Napa, Napa County, California. Newman & Wing. October 9, 1888.
Used locally for building.

10147. **Building Stone.** Napa, Napa County, California. Newman & Wing. October 9, 1888.
Said to resist fire very well.

10148. **Building Stone.** Gordon Valley, eleven miles east of Napa, Napa County, California. Newman & Wing. October 9, 1888.
Dresses well, and is very even in color.

10149. **Building Stone** (two varieties). From the Napa Soda Springs, and used there for building purposes. Napa County, California. October 9, 1888.

10150. **Clay**, very fine and white; almost wholly alumina. Sulphur Bank, Lake County, California. October 9, 1888.

10151. **Quicksilver Ore** (two specimens). Bradford Mine, near Middletown, Lake County, California. October 9, 1888.

10152. **Wall Rock.** Hanging wall, Bradford Mine, near Middletown, Lake County, California. October 9, 1888.

10153. **Wall Rock.** Foot wall, Bradford Mine, near Middletown, Lake County, California. October 9, 1888.

10154. **Quicksilver Ore** (two specimens). Napa Consolidated Quicksilver Mine, Oat Hill, Napa County, California. October 9, 1888.

10155. **Country Rock.** Napa Consolidated Quicksilver Mine, Oat Hill, Napa County, California. October 9, 1888.

10156. **Silver Ore**, Palisade Mine, Calistoga, Napa County, California. October 9, 1888.

10157. **Country Rock**, Palisade Mine, Calistoga, Napa County, California. October 9, 1888.

10158. **Country Rock**, east of the ore at the Grigsby Silver Mine, Calistoga, Napa County, California. October 9, 1888.

10159. **Gold Quartz**, Paradise Mine, Paradise Valley, Lake County, California. October 9, 1888.

10160. **Building Stone**—Sandstone, Altamont Quarry, near Livermore, Alameda County, California. From the Company. November 5, 1888.

10161. **Coal**—Lignite. Ione, Amador County, California. Sacramento Ione Coal Company. November 6, 1888.

10162. **Auriferous Talc**, Placerville, El Dorado County, California. Melville Attwood. November 8, 1888.

10163. **Coal**—Bituminous, Japan. Charles R. Allen. November 13, 1888.

10164. **Clay**, overlies coal veins, Ione, Amador County, California. Sacramento Ione Coal Company. November 13, 1888.

10165. **Clay**, from between the coal veins, Ione, Amador County, California. Sacramento Ione Coal Company. November 13, 1888.

10166. **Clay**, underlying the coal veins, Ione, Amador County, California. Sacramento Ione Coal Company. November 13, 1888.

10167. **Building Stone**, used locally for building and paving, Archer Ranch, near Cayucos, San Luis Obispo County, California. November 15, 1888.

10168. **Wall Rock** (Gneiss), hanging wall southwest side of the Stonewall Mine, Cuyamaca, San Diego County, California. November 15, 1888.

10169. **Fossil Oyster**, Suñol, Alameda County, California. C. Hadsell. November 15, 1888.

10170. **Bowenite** (a variety of serpentine), polished, Otago Bay, New Zealand. Melville Attwood. November 15, 1888.

10171. **Indian Arrowheads** (eight specimens), Lassen County, California. November 15, 1888.

10172. **Iron Ore**—Magnetite. San Bernardino County, California. November 15, 1888.

10173. **Magnesite** (carbonate of magnesia). San Bernardino County, California. November 15, 1888.

10174. **Quartz and Chalcedony**; colored by oxide of manganese. San Bernardino County, California. November 15, 1888.

10175. **Gold Quartz.** Scorpion Mine, West Point, Calaveras County, California. Geo. Griffing.

10176. **Building Stone**—Basalt. Cordelia, near Suisun, Solano County, California. November 15, 1888.

Residence of A. D. Moore, corner of Devisadero and Broadway Streets, San Francisco, is built of this stone.

10177. **Gold Quartz**, with free gold. Apollo Mine, Unga Island, Alaska. Captain J. C. Hague. November 22, 1888.

10178. **Sulphate of Soda** (Glauber's Salt). Ash Meadow, Nevada. November 22, 1888.

10179. **Calcite Breccia.** Charleston Mountain, Nevada. Miss Dollie White. November 22, 1888.

This formation extends over an area of thirty miles square.

10180. **Clay Shale** of variegated color. Gladstone District, Inyo County, California. November 22, 1888.

10181. **Limestone.** Quarry of the Marble Limekiln Company, Swartout Cañon, San Bernardino County, California. November 22, 1888.

10182. **Gold Quartz.** Old Woman Mountain, San Bernardino County, California. James Parker. November 22, 1888.

10183. **Silver Ore.** No. 4 Mine, Ivawatt District, San Bernardino County, California. November 22, 1888.

10184. **Silver Ore.** Maud B Mine, Kingston Mountain, Inyo County, California. Samuel Yount. November 22, 1888.

10185. **Silver Ore.** Bullion Mine, Kingston Mountain, Inyo County, California. Samuel Yount. November 22, 1888.

10186. **Silver Ore.** James Parker Mine, Oasis, Nevada. November 22, 1888.

10187. **Croppings and Country Rock** of the Lydia Hatzel and Gambetta Mines, Solo District, San Bernardino County, California. November 22, 1888.

10188. **Croppings** of Gunsight Mine, Resting Springs District, Inyo County, California. November 22, 1888.

10189. **Country Rock**—Quartzite, Mabel Mine, Resting Springs District, Inyo County, California. November 22, 1888.

10190. **Country Rock**, Red Rover Mine, Cedar District, Los Angeles County, California. November 22, 1888.

10191. **Gypsum** (hydrous sulphate of calcium), Clark's Fork, Amargosa River, Inyo County, California. November 22, 1888.

10192. **Chalcedony**, Carr's Cañon, San Bernardino County, California. November 22, 1888.

10193. **Iron Ore**—Magnetite, San Feliciano Placers, Los Angeles County, California. November 22, 1888.

10194. **Silver Ore**, with gold and copper, Wonder Mine, Inyo County, California. November 22, 1888.

10195. **Country Rock**, Rainbow Mine, Resting Springs District, Inyo County, California. November 22, 1888.

10196. **Clay**, indurated by exposure. Fish Ponds, San Bernardino County, California. November 22, 1888.

When first dug can be shaped with a drawknife. It is used locally to some extent as a building material.

10197. **Silver Ore**, with copper, Josephus Johnston Mine, Solo District, San Bernardino County, California. J. A. Johnston. November 22, 1888.

10198. **Gold Quartz,** Topeka Mine, Cedar District, Los Angeles County, California. Wm. Roberts. November 22, 1888.

10199. **Silver Ore,** Grant Mine, Resting Springs District, Inyo County, California. November 22, 1888.

10200. **Silver Ore,** Sheridan Mine, Resting Springs District, Inyo County, California. November 22, 1888.

10201. **Silver Ore,** Langtry Mine, Calico, San Bernardino County, California. L. W. Greenwell. November 22, 1888.

10202. **Silver Ore,** No. 7 Mine, Ivawatt Mountains, San Bernardino County, California. November 22, 1888.

10203. **Silver Ore,** No. 5 Mine, Ivawatt Mountains, San Bernardino County, California. November 22, 1888.

10204. **Mica** (silicate of aluminum and potassium), Saratoga District, Inyo County, California. November 22, 1888.

10205. **Fossil Shark's Tooth,** San Feliciano Placers, Los Angeles County, California. November 22, 1888.

Found 70 feet below the surface.

10206. **Pyrite** (bisulphide of iron), occurs in the coal beds, Ione, Amador County, California. Sacramento Ione Coal Company. November 22, 1888.

10207. **Clay.** From a depth of sixty feet in the Gray Eagle Mine, Restings Springs District, Inyo County, California. November 22, 1888.

Has been used successfully for lining a smelting furnace worked in this district.

10208. **Clay**—indurated. Amargosa Borax Works, Inyo County, California. November 22, 1888.

10209. **Silver Ore.** No. 5 Mine, Ivawatt Mountains, San Bernardino County, California. November 22, 1888.

10210. **Iron Ore**—Hematite and Micaceous Iron. Ivawatt Mountains, San Bernardino County, California. November 22, 1888.

10211. **Trachyte.** Used locally as a building stone and for setting steam boilers. It is soft when first quarried, and easily worked, but hardens on exposure to the air and to heat. Desert, San Bernardino County, California. November 22, 1888.

10212. **Asbestus**; variety known as "serpentine asbestus." Saratoga District, Inyo County, California. November 22, 1888.

10213. **Silver Ore.** Morning Star Mine, Saratoga District, Inyo County, California. November 22, 1888.

10214. **Sandstone Concretions.** San Bernardino County, California. November 22, 1888.

10215. **Copper Ore**—Chalcopyrite. Newton Mine, four miles northeast of Ione, Amador County, California. November 22, 1888.

10216. **Wall Rock.** Hanging wall, Newton Mine, four miles northeast of Ione, Amador County, California. November 22, 1888.

10217. **Quartz Crystals.** Garfield Mine, Silver Mountain, Alpine County, California. Ole Nelson. November 23, 1888.

10218. **Quartz Crystals.** Washington Mine, Alpine County, California. November 23, 1888.

10219. **Silver Ore.** Stella Mine, Monitor District, Alpine County, California. November 23, 1888.

10220. **Silicified Wood.** Silver Mountain District, Alpine County, California. November 23, 1888.

10221. **Silicified Wood.** Red Mountain, Alpine County, California. November 23, 1888.

10222. **Silver Ore,** Exchequer Mine, Silver Mountain District, Alpine County, California. November 23, 1888.

10223. **Wall Rock,** Exchequer Mine, Silver Mountain District, Alpine County, California. November 23, 1888.

10224. **Silver Ore,** Altura Mine, Red Mountain District, Alpine County, California. November 23, 1888.

10225. **Wall Rock,** Altura Mine, Red Mountain District, Alpine County, California. November 23, 1888.

10226. **Silver Ore,** Advance Mine, Monitor District, Alpine County, California. November 23, 1888.

10227. **Silver Ore,** I. X. L. Mine, Silver Mountain District, Alpine County, California. November 23, 1888.

10228. **Country Rock,** I. X. L. Mine, Silver Mountain District, Alpine County, California. November 23, 1888.

10229. **Silver Ore,** Pennsylvania Mine, Silver Mountain District, Alpine County, California. November 23, 1888.

10230. **Wall Rock,** Pennsylvania Mine, Silver Mountain District, Alpine County, California. November 23, 1888.

10231. **Silver Ore,** with enargite and pyrite, Morning Star Mine, Monitor District, Alpine County, California. November 23, 1888.

10232. **Chromic Iron,** one and one half miles west of Yreka, Siskiyou County, California. November 23, 1888.

10233. **Silver Ore,** Washington Mine, Silver Mountain District, Alpine County, California. November 23, 1888.

10234. **Wall Rock,** hanging wall of the Washington Mine, Silver Mountain District, Alpine County, California. November 23, 1888.

10235. **Wall Rock,** foot wall of the Washington Mine, Silver Mountain District, Alpine County, California. November 23, 1888.

10236. **Silver Ore,** Nil Desperandum Mine, Red Mountain District, Alpine County, California. November 23, 1888.

10237. **Silver Ore,** Polaris Mine, Mogul District, Alpine County, California. November 23, 1888.

10238. **Silver Ore,** Somerset Mine, Alpine District, Alpine County, California. November 23, 1888.

10239. **Silver Ore,** Silver King Mine, Silver King District, Alpine County, California. November 23, 1888.

10240. **Silver Ore,** Lady Franklin Mine, Silver Mountain District, Alpine County, California. November 23, 1888.

10241. **Nickel Ore,** Piny Mountain, Riddle, Oregon. W. Q. Brown. November 23, 1888.

10242. **Auriferous Vein Matter,** Platinum Mine, Silver Mountain District, Alpine County, California. November 23, 1888.

10243. **Copper Ore**—Chalcopyrite. Penn Chemical Company, Campo Seco, Calaveras County, California. November 23, 1888.

10244. **Clay**—yellow (mistaken for yellow ochre). Four miles northwest of Ione, Amador County, California. November 23, 1888.
Occurs in large quantities.

10245. **Coal.** Ione, Amador County, California. November 23, 1888.
Specimens from upper and lower beds.

10246. **Gold Quartz.** Lowest level of the Schroeder & Werner Mine, Deadwood District, Siskiyou County. From the company. November 23, 1888.

10247. **Gold Quartz**—200-foot level of the Siskiyou Mine, Humbug Creek, Siskiyou County, California. November 23, 1888.

10248. **Auriferous Vein Matter**—60-foot level, Siskiyou Mine, Humbug Creek, Siskiyou County, California. November 23, 1888.

10249. **Coal**—Bituminous. Anderson, Siskiyou County, California. November 23, 1888.

10250. **Fossils**, occurring near coal vein at Anderson, Siskiyou County, California. November 23, 1888.

10251. **Tin Ore.** Rapids Hill, Dakota. L. L. Robinson. November 23, 1888.

10252. **Fossil Shells**, occurring in sandstone, one and a half miles from Henley, Siskiyou County, California. November 23, 1888.

10253. **Building Stone**—Red Sandstone, Flagstaff, Arizona. November 23, 1888.

10254. **Marble**, Oak Bar, Siskiyou County, California. November 23, 1888.

10255. **Marble**, three cut and polished specimens, from near Ætna, Siskiyou County, California. November 23, 1888.

10256. **Slate**, curiously worn by water or drifting sand, Siskiyou County, California. November 23, 1888.

10257. **Slate**, Red Mountain, Alpine County, California. November 23, 1888.

10258. **Natrolite and Stilbite** (hydrous silicates of aluminum, sodium, and calcium), in lava. Modoc County, California. November 23, 1888.

10259. **Chalcedonic Geode**, Siskiyou County, California. November 23, 1888.

10260. **Jasper**, Siskiyou County, California. November 23, 1888.

10261. **Indian Spear Head**, Pit River, Siskiyou County, California. November 23, 1888.

Evidently brought from a distance, as no stone of this character is found in the vicinity.

10262. **Fossil Ammonite**, Cottonwood Creek, Siskiyou County, California. November 23, 1888.

10263. **Granulyte** (a variety of feldspar), fine grained. Rancheria Gulch, Siskiyou County, California. November 23, 1888.

10264. **Magnetite** (protosesquioxide of iron), and specular iron, Rancheria Gulch, Siskiyou County, California. November 23, 1888.

10265. **Gold**, coarse placer gold from Rancheria Gulch, Siskiyou County, California. November 23, 1888.

10266. **Gold**, mixed with some sand, Hayden Hill, Lassen County, California. November 23, 1888.

10267. **Gold Quartz**, Uncle Sam Mine, Squaw Creek, Shasta County, California. November 24, 1888.

10268. **Gold Quartz**, West Point Mine, Middletown District, Shasta County, California. November 24, 1888.

10269. **Wall Rock**, inclosing rock of West Point Mine (No. 10268).

In this mine both walls are of the same character.

10270. **Gold Quartz**, Mammoth Mine, Buckeye District, Shasta County, California. November 24, 1888.

10271. **Wall Rock** of Mammoth Mine (No. 10270). November 24, 1888.

10272. **Gold Quartz.** Golden Chest Mine, East Fork District, Trinity County, California. November 24, 1888.

10273. **Gold Quartz.** Eureka Mine, Lower Springs District, near Redding, Shasta County, California. November 24, 1888.
Formerly known as the Shearer & Rattler Mine.

10274. **Wall Rock.** Hanging wall of Eureka Mine (No. 10273). November 24, 1888.

10275. **Wall Rock.** Foot wall of Eureka Mine (No. 10273). November 24, 1888.

10276. **Silver Ore.** Lost Confidence Mine, Iron Mountain, Shasta County, California. November 24, 1888.
Specimen of the ore now being worked.

10277. **Wall Rock.** Hanging wall of Lost Confidence Mine (No. 10276). November 24, 1888.

10278. **Wall Rock.** Foot wall of Lost Confidence Mine (No. 10276). November 24, 1888.

10279. **Limestone,** Kennet Quarry, one and one half miles northwest from Kennet Station, Shasta County, California. November 24, 1888.

10280. **Gold Quartz.** Central Mine, Old Diggings District, Shasta County, California. November 24, 1888.

10281. **Wall Rock.** Hanging wall, Central Mine (No. 10280). November 24, 1888.

10282. **Wall Rock.** Foot wall, Central Mine (No. 10280). November 24, 1888.

10283. **Silver Ore.** Gibraltar Mine, Deep Spring Valley, Inyo County, California. L. M. Payson. November 24, 1888.

10284. **Building Stone**—Sandstone. Dressed specimen; quarry six miles northeast from Redding, Shasta County, California. November 24, 1888.
Largely used locally for building purposes.

10285. **Gold Quartz.** Emigrant Mine, Grizzly Gulch District, Shasta County, California. November 24, 1888.

10286. **Wall Rock.** Hanging wall of Emigrant Mine (No. 10285). November 24, 1888.

10287. **Wall Rock.** Foot wall of Emigrant Mine (No. 10285). November 24, 1888.

10288. **Gold Quartz.** Iron Mask Mine, Shasta County, California. November 24, 1888.

10289. **Wall Rock.** Hanging wall of Iron Mask Mine (No. 10288). November 24, 1888.

10290. **Wall Rock.** Foot wall of Iron Mask Mine (No. 10288). November 24, 1888.

10291. **Gold Quartz.** Bartred Mine, Deadwood District, Trinity County, California. November 24, 1888.

10292. **Auriferous Vein Matter.** Magdalena Mine, Hay Fork District, Trinity County, California. November 24, 1888.
Contains cinnabar in small particles.

10293. **Gold Quartz.** Cyclone Mine, Hay Fork District, Trinity County, California. November 24, 1888.

10294. **Gold Quartz.** Enterprise Mine, North Fork District, Trinity County, California. November 24, 1888.

10295. **Gold Quartz.** Hardscrabble Mine, East Fork District, Trinity County, California. November 24, 1888.

10296. **Gold Quartz.** Excelsior Mine, New River District, Trinity County, California. November 24, 1888.

10297. **Gold Quartz.** Buck Mine, Indian Creek District, Trinity County, California. November 24, 1888.

10298. **Gold Quartz.** Reilly & Bliss Mine, Backbone District, Shasta County, California. November 24, 1888.

10299. **Wall Rock.** Hanging wall of the Reilly & Bliss Mine (No. 10298). November 24, 1888.

10300. **Wall Rock.** Foot wall, Reilly & Bliss Mine (No. 10298). November 24, 1888.

10301. **Gold Quartz.** Quartz Mountain Mine, Quartz Hill District, Shasta County, California. November 24, 1888.

10302. **Wall Rock.** Quartz Mountain Mine (No. 10301). November 24, 1888.

10303. **Quicksilver Ore**—Rich Cinnabar. Altoona Mine, Trinity County, California. November 24, 1888.

10304. **Cinnabar** (sulphide of mercury). Altoona Mine, Trinity County, California. November 24, 1888.

10305. **Barite** (sulphate of barium). Lost Horse Mine, Shasta County, California. November 24, 1888.

10306. **Gold Quartz.** Bully Choop Mine, Bully Choop District, Trinity County, California. November 24, 1888.

10307. **Gold Quartz.** America Mine, French Gulch District, Shasta County, California. November 24, 1888.

10308. **Wall Rock.** Hanging wall of America Mine (No. 10307). November 24, 1888.

10309. **Wall Rock.** Foot wall, America Mine (No. 10307). November 24, 1888.

10310. **Gold Quartz.** Calumet group of Mines, Buckeye District, Shasta County, California. November 24, 1888.

10311. **Wall Rock.** Hanging wall of Calumet Mine (No. 10310). November 25, 1888.

10312. **Wall Rock.** Foot wall of Calumet Mine (No. 10310). November 24, 1888.

10313. **Gold Quartz.** Brown Bear Mine, Deadwood District, Trinity County, California. November 24, 1888.

10314. **Gold Quartz.** North Star Mine, North Fork District, Trinity County, California. November 24, 1888.

10315. **Talc** (hydrous silicate of magnesium). Six miles southeast from Weaverville, Trinity County, California. November 24, 1888.

This deposit is about one and one half miles long and fifty feet wide. The material is said to harden when heated.

10316. **Coal**—Lignite. Thirty-five miles northeast from Redding, Shasta County, California. November 24, 1888.

Vein two to three feet thick.

10317. **Clay**, with a small proportion of silica. Livermore, Alameda County, California. R. Wegner. November 24, 1888.

10318. **Copper Ore**—Chalcopyrite. Cape Lisburne, Alaska. Gus. Reimers. November 26, 1888.

10319. **Aragonite** (carbonate of calcium). Salt Lake, Utah. Mrs. H. H. Day. November 26, 1888.

10320. **Tourmaline** (boro-silicate of aluminum and magnesium). Frazer Valley, Tulare County, California. J. W. Donley. November 26, 1888.

10321. **Epidote** (silicate of aluminum, iron, and calcium). Frazer Valley, Tulare County, California. J. W. Donley. November 26, 1888.

10322. **Concretions.** Lassen County, California. L. L. Frost. November 26, 1888.

10323. **Mesolite** (hydrous silicate of aluminum, calcium, and sodium). Lassen County, California. L. L. Frost. November 26, 1888.

10324. **Iron Ore**—Magnetite. Ventura County, California. November 26, 1888.

10325. **Diorite**—fine grained. Lower Lake, Lake County, California. P. Christiansen. November 26, 1888.

10326. **Clay**—Kaolin. Carrville, Trinity County, California. J. A. Little. November 26, 1888.

10327. **Clay.** Kelseyville, Lake County, California. C. C. Reynolds. November 26, 1888.

10328. **Diatomaceous Earth.** San Miguel, San Luis Obispo County, California. R. E. Doyle. November 26, 1888.
Contains fresh water diatoms.

10329. **Auriferous Rock.** Mount Morgan Mine, Rockhampton, Queensland, Australia. C. P. Purinton. November 26, 1888.
With this specimen is a gold button from 400 grains of the ore.

10330. **Barite** (sulphate of barium), with ridges of calcite. Mount Diablo, Contra Costa County, California. J. W. Nellis. November 26, 1888.

10331. **Dolerite.** Antimony Mountain, San Benito County, California. November 27, 1888.

10332. **Granite**—Syenitic. San Benito County, California. November 27, 1888.

10333. **Magnetite** (protosesquioxide of iron). Forest Hill, Placer County, California. November 27, 1888.

10334. **Clay.** One mile south of Bodie, a little southwest from Boston Consolidated shaft, Bodie, Mono County, California. A. Soderling. November 27, 1888.

10335. **Clay**—containing protoxide of iron. Yreka, Siskiyou County, California. John Wheeler. November 27, 1888.

10336. **Graphite**—impure. Monterey, Monterey County, California. Hon. B. V. Sargent. November 27, 1888.

10337. **Manganese Ore**—Pyrolusite. San Luis Obispo County, California. Hon. George Hearst. November 27, 1888.

10338. **Realgar** (sulphide of arsenic). Forty miles from Needles, San Bernardino County, California. Frank Howard. November 27, 1888.

10339. **Building Stone**—Sandstone. Two varieties. Caliente, Kern County, California. P. W. Rider. November 27, 1888.

10340. **Cinnabar** (sulphide of mercury) in Chalcedony. Five miles N.N.E. of Bodie, Mono County, California. November 27, 1888.

10341. **Sulphate of Alumina.** Scofield, Emery County, Utah. Dr. H. W. Harkness. November 27, 1888.

10342. **Sulphate of Alumina.** About five miles N.N.W. of Bodie, Mono County, California. November 27, 1888.

10343. **Gypsum** (hydrous sulphate of calcium) of good quality. Los Angeles, California. E. C. Need, November 27, 1888.

10344. **Auriferous Vein Matter.** Angels Camp, Calaveras County, California. W. Stevens. November 27, 1888.

10345. **Silver Ore.** Great Western Mine, Patterson District, Mono County, California. A. Soderling. November 27, 1888.

10346. **Gold Quartz.** May Lundy Mine, Mono County, California. November 27, 1888.

10347. **Silver Ore.** Kentuck Mine, Patterson District, Mono County, California. A. Soderling. November 27, 1888.

10348. **Silver Ore.** Very rich in ruby silver. Commonwealth Mine, Tuscarora, Nevada. F. F. Coffin, per H. K. Mitchell. November 27, 1888.

10349. **Pyrargyrite** (sulph-antimonide of silver). Commonwealth Mine, Tuscarora, Nevada. F. F. Coffin, per H. K. Mitchell. November 27, 1888.

10350. **Wall Rock.** Foot wall, Stonewall Mine, Cuyamaca, San Diego County, California. November 27, 1888.

10351. **Gold Quartz.** Pingtu Mine, Shantung Province, North China. A. M. Ellsworth. November 28, 1888.

10352. **Auriferous Pyrrhotite** (magnetic sulphide of iron). Pingtu Mine, Shantung Province, North China. A. M. Ellsworth. November 28, 1888.

10353. **Basalt**—rich in Olivine. Cap rock of the mountain above the "Mammoth" Vein, Lake District, Mono County, California. November 28, 1888.

10354. **Gypsum** (hydrous sulphate of calcium). Ojai Valley, Ventura County, California.

10355. **Water,** holding in solution 27 per cent of Nitrate of Soda. From the "Nevada Nitre Company's" deposits in Humboldt and Churchill Counties, Nevada. November 28, 1888.

10356. **Iron Ore**—Magnetite (Loadstone Natural Magnet). Northeast corner of Fresno County, California. R. Reynolds. December 7, 1888.

10357. **Bismuthinite** (sulphide of bismuth). Northeast corner of Fresno County, California. R. Reynolds. December 7, 1888.

10358. **Silver Ore** (argentiferous galena), from "Alaska's Mountain of Silver," the Omilak Mine, Fish River District, Golovine Bay, Alaska. John C. Green. December 9, 1888.

Assay by Thomas Price: Gold, $2 07; silver, $173 11; lead, 72 per cent.

10359. **Wavellite** (hydrous phosphate of aluminum). Montgomery County, Arkansas. December 9, 1888.

10360. **Lazulite** (hydrous phosphate of aluminum and magnesium) in quartz. Graves' Mountain, Georgia. December 9, 1888.

10361. **Stilbite** (hydrous silicate of aluminum and calcium). Cape Blomidon, Nova Scotia. December 9, 1888.

10362. **Jefferisite** (hydrous silicate of aluminum, iron, and magnesium). Magnet Cove, Arkansas. December 9, 1888.

10363. **Wavellite** (hydrous phosphate of aluminum). December 9, 1888.

10364. **Chlorastrolite** (silicate of aluminum and calcium). December 9, 1888.

10365. **Diadochite** (hydrous sulphate and phosphate of iron). Oberstein, Germany. December 9, 1888.

10366. **Aglaite** (hydrous silicate of aluminum). Chesterfield, Massachusetts. December 9, 1888.

10367. **Monazite** (phosphate of cerium, lanthanum, and thorium). Brazil. December 9, 1888.

10368. **Menaccanite** (oxide of titanium and iron). Brazil. December 9, 1888.

10369. **Natro-boro-calcite** (borate of lime and soda) in Gypsum. Windsor, Nova Scotia. December 9, 1888.

10370. **Berthierine** (hydrous silicate of iron and aluminum). Hayanges, Moselle, France. December 9, 1888.

10371. **Analcite** (hydrous silicate of aluminum and sodium). Nova Scotia. December 9, 1888.

10372. **Analcite** (hydrous silicate of aluminum and sodium). Nova Scotia. December 9, 1888.

10373. **Natrolite** (hydrous silicate of aluminum and sodium). Bay of Fundy, Nova Scotia. December 9, 1888.

10374. **Jefferisite** (hydrous silicate of aluminum, iron, and magnesium). Westchester, Pennsylvania. December 9, 1888.

10375. **Ambrite** (fossil resin). New Zealand. December 9, 1888.

10376. **Orthoclase** (silicate of aluminum and potassium). Crown Point, New York. December 9, 1888.

10377. **Calco-zincite and Asbestus.** Stirling Hill, New Jersey. December 9, 1888.

10378. **Cookeite** (hydrous silicate of aluminum and lithium). Hebron, Maine. December 9, 1888.

10379. **Schrötterite** (hydrous silicate of aluminum). Styria. December 9, 1888.

10380. **Natrolite** (hydrous silicate of aluminum and sodium). Nova Scotia. December 9, 1888.

10381. **Corundum** (alumina). Anderson, South Carolina. December 9, 1888.

10382. **Howlite** (hydro-boro-silicate of calcium). Hants County, Nova Scotia. December 9, 1888.

10383. **Goshenite** (a variety of Beryl, silicate of glucinum, and aluminum). Goshen, Massachusetts. December 9, 1888.

10384. **Gypsum** (hydrous sulphate of calcium). Poland, Ohio. December 9, 1888.

10385. **Variscite** (hydrous phosphate of aluminum). Hot Springs, Arkansas. December 9, 1888.

10386. **Ankerite** (carbonate of magnesium, iron, and calcium). Nova Scotia. December 9, 1888.

10387. **Cryolite** (fluoride of aluminum and sodium). Greenland. December 9, 1888.

10388. **Millerite** (sulphide of nickel). Gap Mine, Pennsylvania. December 9, 1888.

9. **Killinite** (hydrous silicate of aluminum and potassium) after Spodumene. Chesterfield, Massachusetts. December 9, 1888.

0. **Titanite** (silico-titanate of calcium), two specimens. Grattan, Renfrew County, Canada. December 9, 1888.

1. **Stilbite** (hydrous silicate of aluminum and calcium). Cape Blomidon, Nova Scotia. December 9, 1888.

2. **Phlogopite** (silicate of aluminum, potassium, and magnesium). Burgess, Canada. December 9, 1888.

3. **Chrysotile** (a variety of serpentine). Quebec, Canada. December 9, 1888.

4. **Nephelite** (silicate of aluminum, sodium, and potassium). Magnet Cove, Arkansas. December 9, 1888.

5. **Aglaite** (hydrous silicate of aluminum). Chesterfield, Massachusetts. December 9, 1888.

6. **Chrysocolla** (hydrous silicate of copper). Chile. December 9, 1888.

7. **Samarskite** (columbo-tantalate of uranium, iron, and yttrium). Mitchell County, North Carolina. December 9, 1888.

8. **Allanite** (silicate of aluminum, cerium, iron, and calcium). Florida, New York. December 9, 1888.

9. **Petalite** (silicate of aluminum and lithium). Peru, Maine. December 9, 1888.

0. **Magnesite** (carbonate of magnesium). Moravia. December 9, 1888.

1. **Schorlomite** (titano-silicate of iron and calcium). Magnet Cove, Arkansas. December 9, 1888.

10402. **Mordenite and Stilbite** (hydrous silicate of aluminum, calcium, and sodium). Cape Blomidon, Nova Scotia. December 9, 1888.

10403. **Delessite** (hydrous silicate of aluminum, iron, and magnesium). Copper Falls Mine, Lake Superior. December 9, 1888.

10404. **Tourmaline** (boro-silicate of aluminum and magnesium). Franklin, New Jersey. December 9, 1888.

10405. **Triphyllite** (phosphate of iron, manganese, and lithium) in Quartz. Norwich, Massachusetts. December 9, 1888.

10406. **Natrolite** (hydrous silicate of aluminum and sodium), with Analcite. Nova Scotia. December 9, 1888.

10407. **Pyroxene** (silicate of iron, calcium, and magnesium), and Ouvarovite. Orford, Canada. December 9, 1888.

10408. **Tourmaline Quartz.** Pierrepont, New York. December 9, 1888.

10409. **Quartz**—Red. Venezuela, South America. December 9, 1888.

10410. **Zincite** (oxide of zinc) and Franklinite. Franklin, New Jersey. December 9, 1888.

10411. **Cancrinite** (silico-carbonate of aluminum, calcium, and sodium) and Lepidomelane. Litchfield, Massachusetts. December 9, 1888.

10412. **Rhodonite** (silicate of manganese), with Braunite and Calcite. Franklin, New Jersey. December 9, 1888.

10413. **Thomsonite** (hydrous silicate of aluminum, calcium, and sodium). Grand Maurais, Minnesota. December 9, 1888.

10414. **Calcite** (carbonate of calcium). Mineral Point, Wisconsin. December 9, 1888.

10415. **Tremolite** (silicate of magnesium, iron, calcium, and aluminum). Kings' Bridge, New York. December 9, 1888.

10416. **Montebrasite** (phosphate of aluminum and fluoride of lithium). Montebras, France. December 9, 1888.

10417. **Barite** (sulphate of barium). Five Islands, Nova Scotia. December 9, 1888.

10418. **Spodumene** (silicate of aluminum and lithium). Chesterfield, Massachusetts. December 9, 1888.

10419. **Cassiterite** (oxide of tin). Durango, Mexico. December 9, 1888.

10420. **Danburite** (boro-silicate of calcium). Russell, New York. December 9, 1888.

10421. **Ekebergite** (silicate of aluminum, calcium, and sodium). Bucks County, Pennsylvania. December 9, 1888.

10422. **Pyrite** (sulphide of iron) in nodules formed on a nucleus. Dutch Hill, Plumas County, California. December 10, 1888.

10423. **Rock Specimen.** Country Rock at the Hayden Hill Mines, Lassen County, California. December 10, 1888.

10424. **Gold Quartz.** Golden Eagle Mine, Hayden Hill, Lassen County, California. December 10, 1888.

10425. **Gold Quartz.** Brush Hill Mine, Hayden Hill, Lassen County, California. December 9, 1888.

10426. **Gold Quartz.** Evening Star Mine, Lassen County, California. December 10, 1888.
Found in Vein Matter, No. 10427.

10427. **Auriferous Vein Matter.** Evening Star Mine, Hayden Hill, Lassen County, California. December 10, 1888.

10428. **Wall Rock.** Hanging Wall of the Evening Star Mine, Hayden Hill, Lassen County, California.

10429. **Gold Quartz**—Croppings. Evening Star Mine, Hayden Hill, Lassen County, California. December 10, 1888.

10430. **Gold Quartz**—Casing of the soft auriferous vein matter. Evening Star Mine, Hayden Hill, Lassen County, California. E. B. Preston, W. C. Howard, and R. Saling. December 10, 1888.

10431. **Auriferous Vein Matter** (soft). Evening Star Mine, Hayden Hill, Lassen County, California. December 10, 1888.

10432. **Gold Quartz.** From a ledge near Peter Lassen's original cabin, Lassen Creek, Lassen County, California. December 10, 1888.

10433. **Jasper**—Red. Lassen County, California. December 10, 1888.

10434. **Gold Quartz.** Plumas Consolidated Mine, Cherokee Mountain District, near Greenville, Plumas County, California. S. R. Prentiss. December 10, 1888.

10435. **Gold Quartz.** Eureka Mine, Plumas County, California. December 10, 1888.

10436. **Wall Rock.** Eureka Mine, Plumas County, California. December 10, 1888.

Both walls are of the same rock in this mine.

10437. **Gold Quartz.** Rich in free gold. 250-foot level of Crescent Mine, Plumas County, California. December 10, 1888.

10438. **Gold Quartz.** Showing free gold. Pet Vein of Crescent Mine, Plumas County, California. December 10, 1888.

10439. **Wall Rock**—Quartzite, casing of Pet Vein, Crescent Mine, Plumas County, California. December 10, 1888.

10440. **Gold Quartz.** Gold Bluff Mine, Sierra County, California. December 10, 1888.
Specimen taken 2,000 feet from mouth of tunnel.

10441. **Calcite** (carbonate of calcium). Twelve miles from Susanville, Lassen County, California. December 10, 1888.

10442. **Mariposite** (Fuchsite—silicate of iron, alumina, lime, magnesia, potash, and chromium), called by the miners "Blue Jay." Rainbow Mine, Sierra County, California. G. O. Groves. December 10, 1888.

10443. **Magnetite** (proto-sesquioxide of iron). Crystals in talcose slate. Near Forest City, Sierra County, California. December 10, 1888.

10444. **Marble.** San Emedio, Kern County, California. December 10, 1888.

10445. **Calcite** (carbonate of calcium) in nodules. Mount Pinos, Ventura County, California. December 10, 1888.

10446. **Gold Quartz.** Lady May Mine, Ventura County, California. December 10, 1888.

10447. **Gold Quartz.** White Mule Mine, Ventura County, California. December 10, 1888.

10448. **Gold Quartz.** Foley Mine, Ventura County, California. December 10, 1888.

10449. **Gold Quartz.** Clark's Mine, on Wolf Creek, three miles west of Greenville, Plumas County, California. December 10, 1888.

10450. **Silver Ore**—Stibnite (sulphide of antimony) carrying silver. Boushey's Mine, San Emedio, Kern County, California. December 10, 1888.

10451. **Granite.** Three miles above Cisco, Placer County, California. December 10, 1888.
Near the railroad, in large quantity, accessible, and easily quarried.

10452. **Indian Pestles** (two). Ventura County, California. S. Bowers, M.D. December 10, 1888.

10453. **Silver Ore.** White Chief Mine, Mineral King District, Tulare County, California. December 11, 1888.

10454. **Silver Ore.** Lady Franklin Mine, Mineral King District, Tulare County, California. December 11, 1888.

10455. **Gold Quartz**, with portion of the dyke that cuts the vein at right angles attached. Lockwood Mine, West Point, Calaveras County, California. December 11, 1888.

10456. **Linarite** (a cupreous sulphate of lead), pseudomorph after Cerussite, with Cerussite in fine crystals, bindheimite, malachite, and argentiferous galena. Crapo Mine, Cerro Gordo, Inyo County, California. William Crapo. December 11, 1888.

10457. **Silver Ore.** White Chief Mine, Mineral King District, Tulare County, California. December 11, 1888.

10458. **Silver Ore.** Empire Mine, Mineral King District, Tulare County, California. December 11, 1888.

10459. **Country Rock**—Limestone. Mineral King District, Tulare County, California. December 11, 1888.

10460. **Silver Ore.** Greenly & Broder Mine, Deep Spring District, Inyo County, California. December 11, 1888.

10461. **Silver Ore.** Union Mine, Cerro Gordo, Iny County, California. December 11, 1888.

10462. **Silver Ore.** Crapo Mine, Cerro Gordo, Ir County, California. William Crapo. Decem 11, 1888.

10463. **Silver Ore.** Rich carbonate and galena ore. Crapo Mine, Cerro Gordo, Inyo County, California. William Crapo. December 11, 1888.

10464. **Mica Schist** (knotty). Banner, Union District, San Diego County, California. December 11, 1888.

10465. **Slate**—Silicious, and containing Mica. Halleck, San Bernardino County, California. N. L. Morrow. December 11, 1888.

10466. **Calcite** (carbonate of calcium). Mineral King District, Tulare County, California. December 11, 1888.

10467. **Clay**—of good fire-resisting quality. Sutter City, Sutter County, California. W. C. Smith. December 11, 1888.

10468. **Coal** in clay colored by carbonaceous matter. Sutter City, Sutter County, California. W. C. Smith. December 11, 1888.

10469. **Gold Quartz.** 250-foot level of the Esmeralda Mine, Indian Creek, four miles from Murphys, Calaveras County, California. December 12, 1888.

10470. **Wall Rock.** Hanging wall of No. 10469. December 12, 1888.

10471. **Wall Rock.** Foot wall of No. 10469. December 12, 1888.

10472. **Gold Quartz,** with telluride of gold. Wildman Mine, Sutter Creek, Amador County, California. December 12, 1888.

10473. **Wall Rock.** Hanging wall of No. 10472. December 12, 1888.

10474. **Wall Rock.** Foot wall of No. 10472. December 12, 1888.

10475. **Gold Quartz.** Emma Mine, fourteen miles northwest from Redding, Shasta County, California. December 12, 1888.

10476. **Gold Quartz**, showing free gold. Live Oak Mine, near Jackson, Amador County, California. December 12, 1888.

10477. **Wall Rock** of No. 10476. December 12, 1888.

10478. **Gouge** of No. 10476. December 12, 1888.

10479. **Gold Quartz**—with free gold and telluride of gold. Bonanza Mine, Sonora, Tuolumne County, California. December 12, 1888.

10480. **Bed Rock.** Two varieties. Lambing Gravel Mine, near Ione, Amador County, California. December 12, 1888.

10481. **Serpentine and Picrolite.** Willow Springs, between Plymouth and Carbondale, Amador County, California. December 12, 1888.

10482. **Building Stone.** Diamond Springs, El Dorado County, California. December 12, 1888.

This specimen has been in a wall thirty years. The supply of this stone is practically inexhaustible.

10483. **Gold and Telluride of Gold.** Bonanza Mine, Sonora, Tuolumne County, California. Dart and Oliver. December 12, 1888.

10484. **Sand**—"Fire sand," consisting of angular and rounded grains of quartz, with some alumina and magnesia. Carbondale, Amador County, California. N. Clark & Son. December 12, 1888.

10485. **Clay**—"Fire Clay." Carbondale, Amador County, California. N. Clark & Son. December 12, 1888.

10486. **Clay**—"Sewer pipe clay." Carbondale, Amador County, California. N. Clark & Son. December 12, 1888.

10487. **Clay**—"Stoneware Clay." Carbondale, Amador County, California. N. Clark & Son. December 12, 1888.

10488. **Gold Quartz.** Yuba Mine, Washington District, Nevada County, California. December 12, 1888.

10489. **Gold Quartz.** Sheep Ranch Mine, Calaveras County, California. December 12, 1888.

10490. **Wall Rock.** Hanging wall of No. 10489. December 12, 1888.

10491. **Wall Rock.** Foot wall of No. 10489. December 12, 1888.

10492. **Wall Rock**—Dyke which comes into the quartz No. 10489 occasionally. December 12, 1888.

10493. **Wall Rock**—Quartzite, comes in occasionally on foot wall of No. 10489. December 12, 1888.

10494. **Vein Matter**—Between walls of No. 10490. December 12, 1888.

10495. **Wall Rock.** Hanging wall of the Goodenough Lode, four miles northwest of Copperopolis, Calaveras County, California. December 12, 1888.

10496. **Wall Rock.** Foot wall of No. 10495. December 12, 1888.

10497. **Auriferous Gravel.** Plymouth Rock Mine, six miles north of Milton, Calaveras County, California. December 12, 1888.

This mine is worked by a large open cut. Course of pay gravel, northwest to southeast, dip on surface, westerly. Sample taken over a distance of eighty-two feet in one direction and fifty-five feet in the other.

10498. **Auriferous Gravel.** Average of fifty feet in tunnel, one hundred feet below open cut, and east of perpendicular line from cut. Plymouth Rock Mine, Milton, Calaveras County, California. December 12, 1888.

10499. **Auriferous Gravel.** Average of eighteen-foot shaft, three hundred feet southeast of open cut. Plymouth Rock Mine, Milton, Calaveras County, California. December 12, 1888.

10500. **Auriferous Gravel.** Average of fifteen-foot shaft, two hundred and fifty feet northeast of open cut. Plymouth Rock Mine, Milton, Calaveras County, California. December 12, 1888.

10501. **Wall Rock.** Foot wall of Plymouth Rock Mine, six miles north of Milton, Calaveras County, California. December 12, 1888.

Hanging wall not exposed.

10502. **Soapstone**—Steatite. Two and one half miles southeast from Sheep Ranch, Calaveras County, California. December 12, 1888.

10503. **Copper Ore**—Chalcopyrite. Union Mine, Copperopolis, Calaveras County, California. December 12, 1888.

Specimen from three hundred-foot level from which ore was being extracted in 1888. Vein said to be four feet wide.

10504. **Copper Ore.** Average sample of ore as shipped from Union Mine, Copperopolis, Calaveras County, California. December 12, 1888.

10505. **Wall Rock.** Union Mine, Copperopolis, Calaveras County, California. December 12, 1888.

The character of the walls varies very much in different parts of this mine.

10506. **Manganese Ore**—Pyrolusite. Four miles east of Milton, Calaveras County, California. December 12, 1888.

10507. **Wall Rock**—Casing of No. 10506. December 12, 1888.

10508. **Chromic Iron.** Ten miles northeast from Milton, Calaveras County, California. December 12, 1888.

Found in bunches and deposits on surface.

10509. **Manganese Ore.** Toughnut Mine, three miles northeast from Milton, Calaveras County, California. Wm. Hendricks. December 12, 1888.

10510. **Copper Ore.** From the one hundred-foot level of the Union Mine, Copperopolis, Calaveras County, California. December 12, 1888.

10511. **Gold Quartz,** with free gold and telluride of gold. Bonanza Mine, Sonora, Tuolumne County, California. From the company. December 13, 1888.

10512. **Gold Quartz.** San Guiseppe Mine, Tuolumne County, California. December 13, 1888.
This specimen has been roasted, which has rendered the gold visible.

10513. **Gold Quartz,** with Molybdenite. McCreight Mine, Angels, Calaveras County, California. December 13, 1888.

10514. **Gold Quartz**—Average sample from the Angels or Potter Vein. Angels, Calaveras County, California. Angels Mining Company. December 13, 1888.

10515. **Wall Rock**—Hanging wall. Talcose rock about two feet thick, just east of the quartz of No. 10514. December 13, 1888.

10516. **Wall Rock**—Hard. Four feet east of No. 10515. December 13, 1888.

10517. **Wall Rock**—Hard Greenstone. East from No. 10516. December 13, 1888.

10518. **Wall Rock**—Foot wall immediately under the quartz, No. 10514. December 13, 1888.

10519. **Wall Rock**—Extreme foot wall of No. 10514. December 13, 1888.

10520. **Gold Quartz**—Average sample from the McCreight Mine, Angels, Calaveras County, California. December 13, 1888.

10521. **Wall Rock**—Hanging wall of No. 10520. December 13, 1888.

10522. **Wall Rock**—Foot wall of No. 10520. December 13, 1888.

10523. **Gold Quartz.** San Guiseppe Mine, Sonora, Tuolumne County, California. Louis Blanding. December 13, 1888.
The gold from this mine is worth from $20 40 to $20 60 per ounce. The value of the concentrates ranges from $518 to $575 per ton.

10524. **Gold Quartz.** Three hundred foot level of the Nevills Mine, Angels, Calaveras County, California. December 13, 1888.

10525. **Gold Quartz.** Four hundred-foot level of the Nevills Mine, Angels, Calaveras County, California. December 13, 1888.
A common character of rock from this mine.

10526. **Granite.** Stanislaus River, near Parrott's Ferry, ten miles from Angels, Calaveras County, California. December 13, 1888.
Amount practically inexhaustible.

10527. **Marble**—White. Two and one half miles northwest from Columbia, Tuolumne County, California. December 13, 1888.

10528. **Marble**—Gray. Two and one half miles northwest from Columbia, Tuolumne County, California. December 13, 1888.

10529. **Gold Quartz.** Lockwood Mine, West Point, Calaveras County, California. December 13, 1888.

10530. **Wall Rock** of No. 10529, next to vein, showing the quartz intruding into the wall. December 13, 1888.

10531. **Country Rock.** Lockwood Mine, West Point, Calaveras County, California. December 13, 1888.

10532. **Gold Quartz.** Average, from a depth of one hundred and two feet, Quaker Mine, four miles south of Mokelumne Hill, Calaveras County, California. December 13, 1888.

10533. **Wall Rock**—"Slickensides"—hanging wall on east side of quartz in No. 10532. December 13, 1888.

10534. **Wall Rock**—Slate in hanging wall of No. 10532. December 13, 1888.

10535. **Wall Rock**—Foot wall of No. 10532, but separated from the quartz by a layer of black slate from six inches to five feet thick. December 13, 1888.

10536. **Gold Quartz.** Black Oak Mine, Soulsbyville, Tuolumne County, California. December 13, 1888.
Average sample.

10537. **Wall Rock**—Foot and hanging wall of No. 10536. December 13, 1888.

10538. **Gouge**—Hard Talcose Slate, No. 10536. December 13, 1888.

10539. **Gouge.** Thirty feet thick on the hanging wall of No. 10532. December 13, 1888.

10540. **Wall Rock**—Hanging wall of the Golden Treasure Mine, Hyde Ranch, eight miles from Sonora, Tuolumne County, California. December 13, 1888.
Soft at the surface, but acquires hardness with depth.

10541. **Wall Rock**—Foot wall, ninety feet from surface, Golden Treasure Mine, Sonora, Tuolumne County, California. December 13, 1888.

10542. **Wall Rock.** Lockwood Mine, West Point, Calaveras County, California. December 13, 1888.
Showing the hard gouge.

10543. **Wall Rock.** Hanging wall of the Experimental Gulch Mine, near Columbia, Tuolumne County, California. December 13, 1888.

10544. **Wall Rock.** Foot wall of the Experimental Gulch Mine, Columbia, Tuolumne County, California. December 13, 1888.

10545. **Gold Quartz.** Bonanza Mine, Sonora, Tuolumne County, California. December 13, 1888.

10546. **Vein Matter** or "filling" between walls of No. 10545. December 13, 1888.
Character of material met with when the mine is in "borasca," or barren.

10547. **Country Rock** of No. 10545. December 13, 1888.
This brown rock only occurs in connection with the rich "pockets" found from time to time in this mine, and seems necessary to their occurrence.

10548. **Wall Rock**—Hanging wall of No. 10545. December 13, 1888.

10549. **Wall Rock**—Foot wall of No. 10545. December 13, 1888.

10550. **Granite**—Fine-grained. Three varieties, from Hyde's Ranch, eight miles from Sonora, Tuolumne County, California. December 13, 1888.

10551. **Soapstone**—Steatite. Sonora (in the town limits), Tuolumne County, California. J. T. Faxon. December 13, 1888.

10552. **Gold Quartz.** Grand Victory Mine, near Diamond Springs, El Dorado County, California. December 13, 1888.

10553. **Wall Rock** of No. 10552. December 13, 1888.

10554. **Gold Quartz.** Vandalia Mine, Shingle Springs, El Dorado County, California. December 13, 1888.

10555. **Wall Rock.** Hanging wall of No. 10554. December 13, 1888.

10556. **Wall Rock.** Foot wall of No. 10554. December 13, 1888.

10557. **Wall Rock.** Hanging wall of Church Mine, Mud Springs District, El Dorado County, California. December 13, 1888.

10558. **Wall Rock.** Foot wall of Church Mine, Mud Springs District, El Dorado County, California. December 13, 1888.

10559. **Gouge.** Church Mine, Mud Springs District, El Dorado County, California. December 13, 1888.

10560. **Wall Rock,** showing contact of slate and greenstone, Equator Mine, near Diamond Springs, El Dorado County, California. December 13, 1888.

10561. **Wall Rock.** Hanging wall of Alpine Mine, Garden Valley District, near Georgetown, El Dorado County, California. December 13, 1888.

10562. **Wall Rock.** Foot wall of Alpine Mine, Garden Valley District, near Georgetown, El Dorado County, California. December 13, 1888.

10563. **Wall Rock**—Hanging wall of the Taylor Mine, Greenwood District, near Georgetown, El Dorado County, California. December 13, 1888.

10564. **Wall Rock.** Foot wall of Taylor Mine, Greenwood District, near Georgetown, El Dorado County, California. December 13, 1888.

10565. **Clay,** containing a large proportion of fine, angular quartz; with Dendrites of Oxide of Manganese. Near Newtown, El Dorado County, California. December 13, 1888.

10566. **Clay,** nearly one half of the bulk of which consists of fine angular quartz, large quantities of which are mined and sold as "Electro-Silicon" for polishing purposes. El Dorado, El Dorado County, California. December 14, 1888.

10567. **Glaucophane** (silicate of aluminum, iron, magnesium, and sodium), in Quartz. Arizona. Mrs. H. H. Day. December 14, 1888.

10568. **Wall Rock**—Hanging and foot wall of Josephine Mine, Volcanoville, El Dorado County, California. December 14, 1888.

10569. **Basalt,** near Dunsmuir, Siskiyou County, California. December 14, 1888.

10570. **Hornblende Schist, with Chlorite.** Dunsmuir, Siskiyou County, California. December 14, 1888.

10571. **Gouge.** Eighteen inches thick on hanging wall of west ledge at a depth of two hundred and fifty feet. Amador Mine, near Jackson, Amador County, California. John J. Mineau. December 14, 1888.

10572. **Gouge.** Four inches thick on hanging wall of middle ledge, lies on twenty-inch gouge No. 10573. Amador Mine, near Jackson, Amador County, California. John J. Mineau. December 14, 1888.

10573. **Gouge.** Twenty inches thick on middle ledge, at two hundred and fifty feet depth. Amador Mine, near Jackson, Amador County, California. John J. Mineau. December 14, 1888.

10574. **Gouge.** Three feet thick on foot wall, at ninety feet depth. Amador Mine, near Jackson, Amador County, California. John J. Mineau. December 14, 1888.

10575. **Wall Rock**—Hanging wall of Greenstone Ledge and foot wall of East Ledge at surface. Amador Mine, near Jackson, Amador County, California. John J. Mineau. December 14, 1888.

10576. **Wall Rock**—Foot wall of West Ledge, Amador Mine, near Jackson, Amador County, California. John J. Mineau. December 14, 1888.

10577. **Auriferous Gravel.** Enterprise Mine, Scott Bar, Siskiyou County, California. December 14, 1888.

The large piece is from the back channel; the dark colored pieces from the bedrock.

10578. **Soapstone**—Steatite (two varieties). Hamburgh, Siskiyou County, California. Daniel Caldwell. December 14, 1888.

10579. **Brick.** Made from the alluvium resulting from the decomposition of Basalt (No. 10569). Dunsmuir, Siskiyou County, California. December 14, 1888.

Used in the railroad shops at Dunsmuir for furnaces, fireplaces, etc.

10580. **Gold Quartz.** Upper ledge, Ball & Co.'s Mine, Eddy Gulch, Black Bear Range, Siskiyou County, California. December 14, 1888.

10581. **Wall Rock**—Slate, with small veins of quartz. Hanging wall of No. 10580. December 14, 1888.

10582. **Wall Rock**—Anamesite. Foot wall of No. 10580, and hanging wall of the lower ledge of No. 10583. December 14, 1888.

10583. **Gold Quartz.** Lower ledge, Ball & Co.'s Mine, Eddy Gulch, Siskiyou County, California. December 14, 1888.

10584. **Wall Rock.** Foot wall of No. 10583. December 14, 1888.

10585. **Gold Quartz.** Bolivar Mine, Bowlder Creek, Siskiyou County, California. December 14, 1888.

10586. **Wall Rock**—Altered Serpentine. Hanging (west) wall of No. 10585. December 14, 1888.

10587. **Wall Rock**—Diabase. Foot wall of No. 10585. December 14, 1888.

10588. **Fossils.** Jawbone with teeth, bone, piece of wood, etc., Centennial Gravel Mine, Klamath River, Siskiyou County, California. December 14, 1888.

10589. **Fossils.** Soda Bar, Cottonwood Creek, Siskiyou County, California. December 14, 1888.
Apparently portions of the skull of some large animal.

10590. **Pumice.** Near Shasta Butte, Siskiyou County, California. December 14, 1888.

10591. **Soapstone**—Steatite. One and one half miles west from Nantzel's, on the road from Ætna to Fort Jones, Siskiyou County, California. December 14, 1888.

10592. **Clay.** Twelve miles from Adin, Modoc County, California. December 14, 1888.

10593. **Conglomerate.** McArthur's Gulch, Shasta Valley, Siskiyou County, California. December 14, 1888.

It lies in strata. The specimen shows the natural cleavage, and has not been dressed in any way.

10594. **Quartz,** with rounded concretions of magnetic iron, Kelly Mine, eighteen miles from Adin, Modoc County, California. December 14, 1888.

10595. **Lava**—Doleritic. Eighteen miles from Adin, Modoc County, California. December 14, 1888.

10596. **Nodule**—Ferruginous. Centennial Mine, Klamath River, Siskiyou County, California. December 14, 1888.

10597. **Country Rock**—Hornblende. Centennial Mine, Klamath River, Siskiyou County, California. December 14, 1888.

10598. **Wall Rock**—Lucite Basalt. Hanging wall of the Schroeder & Werner Mine, Deadwood District, Siskiyou County, California. December 14, 1888.

10599. **Wall Rock**—Foot wall of the Schroeder & Werner Mine, Deadwood District, Siskiyou County, California. December 14, 1888.

10600. **Copper**—Native, in slate. Humbug Creek, Siskiyou County, California. December 14, 1888.

10601. **Building Stone**—Sandstone. Quarry one and one half miles northeast of Yreka, Siskiyou County, California. December 14, 1888.

10602. **Auriferous Vein Matter,** containing silver. From a ledge eighteen miles north of Adin, Modoc County, California. December 14, 1888.

10603. **Auriferous Gravel.** Rancheria Gulch, Klamath River, Siskiyou County, California. December 14, 1888.

10604. **Auriferous Gravel.** Haley and Halstead Mine, Happy Camp, Siskiyou County, California. December 14, 1888.

10605. **Gold Quartz.** Nicollett's Mine, Sawyer's Bar, Siskiyou County, California. December 14, 1888.

10606. **Wall Rock**—Hanging wall of No. 10605. December 14, 1888.

10607. **Wall Rock**—Foot wall of No. 10605. December 14, 1888.

10608. **Fossil.** Tarn Lake, Thomas Creek, Lake County, Oregon. December 14, 1888.

10609. **Clay,** in which the fossils No. 10589 are found at Soda Bar, Siskiyou County, California. December 14, 1888.

10610. **Lead Ore**—Galena. Four miles north of Yreka, Siskiyou County, California. December 14, 1888.

10611. **Auriferous Gravel**—"Hard Cement." Rancheria Gulch, Klamath River, Siskiyou County, California. December 14, 1888.

10612. **Auriferous Pyrites,** on Hematite. Eliza Mine, Hungry Creek, Siskiyou County, California. December 14, 1888.

10613. **Auriferous Conglomerate.** From above the Anderson Mine, Hungry Creek, Siskiyou County, California. December 14, 1888.

10614. **Bituminous Shale.** Shasta Valley, Siskiyou County, California. December 14, 1888.

10615. **Yellow Ochre**—Limonite. Bailey Ranch, Siskiyou County, California. December 14, 1888.

10616. **Ferruginous Earth**—"Mineral Paint." Siskiyou County, California. December 14, 1888.

10617. **Fossil Horn.** Found near the bedrock of the Centennial Mine, Klamath River, Siskiyou County, California. December 14, 1888.

10618. **Conglomerate** (sand and lime). Centennial Mine, Klamath River, Siskiyou County, California. December 14, 1888.

10619. **Calcite** (carbonate of calcium) of peculiar formation. Centennial Mine, Klamath River, Siskiyou County, California. December 14, 1888.

10620. **Gold Quartz.** Northern King Mine, Beaver Creek, Siskiyou County, California. December 14, 1888.

10621. **Auriferous Gravel,** showing gold. Centennial Mine, Klamath River, Siskiyou County, California. December 14, 1888.

10622. **Quartz**—Colored green by iron. Siskiyou County, California. December 14, 1888.

10623. **Chalcedony Pebbles.** Found in amygdaloidal dolerite, six miles northeast of Adin, Modoc County, California. December 14, 1888.

10624. **Dolerite**—Amygdaloidal, in which the pebbles of No. 10623 occur. December 14, 1888.

10625. **Lava.** Three varieties. From the roof of Capt. Jack's Cave, Lava Beds, Modoc County, California. December 14, 1888.

10626. **Auriferous Gravel.** Bailey & Woods' Mine, Klamath River, Siskiyou County, California. December 14, 1888.

10627. **Gold Quartz.** Cape Mine, Salmon River, Siskiyou County, California. December 14, 1888.

10628. **Wall Rock**—Argillaceous shale with dendrites. Hanging wall of No. 10627. December 14, 1888.

10629. **Wall Rock**—Argillaceous rock with veins of calcite and silica. Foot wall of No. 10627. December 14, 1888.

10630. **Gold Quartz**—Middle ledge, Black Bear Mine, North Fork of Salmon River, Siskiyou County, California. December 14, 1888.

10631. **Wall Rock**—Quartz and slate. Hanging wall of No. 10630. December 14, 1888.

10632. **Wall Rock**—Foot wall of No. 10630. December 14, 1888.

10633. **Gold Quartz.** Upper ledge of Black Bear Mine, North Fork of Salmon River, Siskiyou County, California. December 14, 1888.

10634. **Wall Rock**—Black slate. Hanging wall of No. 10633. December 14, 1888.

10635. **Silicified Wood.** Soda Bar, Cottonwood Creek, Siskiyou County, California. December 14, 1888.
Numerous fossils have been found in this locality.

10636. **Quartz and Chalcedony Pebbles.** Soda Bar, Cottonwood Creek, Siskiyou County, California. December 14, 1888.

10637. **Gold Quartz**, showing free gold and telluride of gold, with Hessite (telluride of silver). Scott Bar Mine, three miles from the mouth of Scott River, Siskiyou County, California. Scott Bar Milling and Mining Company. December 17, 1888.

10638. **Wall Rock**—Micaceous schist. Hanging wall of No. 10637. December 17, 1888.

10639. **Wall Rock**—Foot wall of No. 10637. December 17, 1888.

10640. **Gold Quartz.** Siskiyou Mine, North Fork of Hungry Creek, ten miles from Yreka, Siskiyou County, California. December 17, 1888.

10641. **Gold Quartz.** Hegler Bros.' Mine, North Fork of Hungry Creek, Siskiyou County, California. December 17, 1888.

10642. **Building Stone**—Sandstone. Quarry two and one half miles northwest from Yreka, Siskiyou County, California. December 17, 1888.
Used in Yreka for public and other buildings.

10643. **Calcite** (carbonate of calcium). Eight miles southwest from Montague, Siskiyou County, California. December 17, 1888.

10644. **Fossil Leaves.** Houghton Creek, near Hornbrook, Siskiyou County, California. Dr. Ream. December 17, 1888.

10645. **Clay Shale**, with Dendrites of oxide of manganese. Siskiyou Mountains, near boundary line of Oregon and California. Dr. Ream. December 17, 1888.

10646. **Chromic Iron.** Four miles from Scott Bar, Siskiyou County, California. December 17, 1888.

10647. **Jasper and Chalcedony.** Three varieties from Bogus Mountain, eighteen miles northwest from Montague, Siskiyou County, California. December 17, 1888.

10648. **Auriferous Vein Matter**—Arsenical pyrites, rich in gold. Rainbow Mine, Chipp's Flat District, Sierra County, California. December 17, 1888.

10649. **Gold Quartz.** Eagle Mine, Chipp's Flat District, Sierra County, California. December 17, 1888.

10650. **Auriferous Vein Matter**—Talcose slate and quartz. Siberia. General Baranoffsky. December 17, 1888.

10651. **Tufa**—Trachytic. Charley Morse Cañon, ten miles east of Tehachapi, Kern County, California. December 17, 1888.

10652. **Building Stone**—Sandstone, six varieties, Sand Cañon, ten miles east of Tehachapi, Kern County, California. December 17, 1888.

10653. **Gold Quartz.** Abbey Mine, Hildreth, Fresno County, California. From the company. December 17, 1888.

10654. **Gold Quartz.** Oro Fino Mine, Dunlap, Fresno County, California. December 17, 1888.

10655. **Gold Quartz.** Samson Mine, Dunlap, Fresno County, California. December 17, 1888.

10656. **Gold Quartz.** White Cross Mine, Dunlap, Fresno County, California. December 17, 1888.

10657. **Coal.** Bowlder Creek, Monterey County, California. December 17, 1888.

10658. **Coal.** Roberson and Robins' Mine, southwest corner of Fresno County, California. December 17, 1888.

10659. **Gold Quartz.** Flying Dutchman Mine, Potter Ridge District, Fresno County, California. December 18, 1888.

10660. **Gold Quartz.** Hanover Mine, Fine Gold Gulch, Fresno County, California. December 18, 1888.

10661. **Gold Quartz.** Crystal Mine, Potter Ridge District, Fresno County, California. December 18, 1888.

10662. **Gold Quartz.** Confidence Mine, Big Dry Creek, Fresno County, California. December 18, 1888

10663. **Gold Quartz.** Rattlesnake Mine, Hildreth, Fresno County, California. December 18, 1888.

10664. **Gold Quartz.** Texas Flat Mine, Coarse Gold Gulch, Fresno County, California. December 18, 1888.

10665. **Gold Quartz.** Nellie Mine, Hildreth, Fresno County, California. December 18, 1888.

10666. **Limestone.** Mount Raymond, Fresno County, California. December 18, 1888.

10667. **Copper Ore.** Red Streak Mine, Big Dry Creek, Fresno County, California. December 18, 1888.

10668. **Gold Quartz.** County View Mine, Potter Ridge District, Fresno County, California. December 18, 1888.

10669. **Gold Quartz.** Quartz Mountain Mine, Potter Ridge District, Fresno County, California. December 18, 1888.

10670. **Gold Quartz.** Frank Call Mine, Dunlap, Fresno County, California. December 18, 1888.

10671. **Gold Quartz.** Last Chance Mine, Potter Ridge District, Fresno County, California. December 18, 1888.

10672. **Gold Quartz.** Josephine Mine, Potter Ridge District, Fresno County, California. December 18, 1888.

10673. **Gold Quartz.** Zebra Mine, Fine Gold Gulch, Fresno County, California. December 18, 1888.

10674. **Gold Quartz.** Providence Mine, Sycamore District, Fresno County, California. December 18, 1888.

10675. **Gold Quartz.** 99 Mine, Dunlap, Fresno County, California. December 18, 1888.

10676. **Silver Ore.** Star Mine, Mount Raymond, Fresno County, California. December 18, 1888.

10677. **Tufa**—Calcareous, stained by oxide of manganese. Hot Springs Valley, Alpine County, California. Mrs. Grover. December 18, 1888.

10678. **Cinnabar** (sulphide of mercury), very rich, from the upper workings of the New Idria Mine, San Benito County, California. December 19, 1888.

10679. **Arsenious Acid**—Arsenic, from the condensers at the New Idria Mine, San Benito County, California. December 19, 1888.

10680. **Incrustation**, showing globules of mercury, from the condensers at the New Idria Mine, San Benito County, California. December 19, 1888.

10681. **Quicksilver Ore**—Rich cinnabar, upper workings of the New Idria Mine, San Benito County, California. December 19, 1888.
Three hundred feet from top of the hill.

10682. **Quicksilver Ore**—Rich, New Idria Mine, San Benito County, California. December 19, 1888.

10683. **Quicksilver Ore**—Average ore, New Idria Mine, San Benito County, California. December 19, 1888.

10684. **Quicksilver Ore**—Lower workings, New Idria Mine, San Benito County, California. December 19, 1888.

10685. **Wall Rock**—Hanging wall—upper workings New Idria Mine, San Benito County, California. December 19, 1888.

10686. **Wall Rock**—Foot wall, New Idria Mine, San Benito County, California. December 19, 1888.

10687. **Country Rocks**—Two varieties, New Idria Mine, San Benito County, California. December 19, 1888.

10688. **Auriferous Black Sand**, San Andres, Santa Cruz County, California. December 19, 1888.

10689. **Antimony Ore**—Stibnite. Sam Mine, San Benito County, California. December 19, 1888.

10690. **Marl**—From which cement is made. Santa Cruz, Santa Cruz County, California. December 19, 1888.

10691. **Cement**, made from No. 10690. December 19, 1888

10692. **Magnesite** (carbonate of magnesia). Red Mountain, near San Antonio Valley, Alameda County, California. December 21, 1888.
Twenty-eight miles from Livermore, on Government lands.

10693. **Petrified Wood.** Ashurst's Ranch, San Benito County, California. December 21, 1888.
Found in the vicinity of coal beds.

10694. **Sandstone**, streaked with red oxide of iron. Vicinity of coal veins, Pendarin Coal Mine, near Livermore, Alameda County, California. December 21, 1888.

10695. **Tufa**—Calcareous. Jones' Ranch, San Mateo County, California. December 21, 1888.

10696. **Stalactite.** Coating of rocks at Santa Cruz, Santa Cruz County, California. December 21, 1888.

10697. **Conglomerate.** From hills east of King's City, Monterey County, California. December 21, 1888.

10698. **Fossils**—Turritella. Coal Measures, end of Livermore Valley, Alameda County, California. December 21, 1888.

10699. **Fossils**—Cardium edentulum. Felton, Santa Cruz County, California. December 21, 1888.

10700. **Conglomerate**—Sand and fossil shells. Byron Springs, Contra Costa County, California. December 21, 1888.

10701. **Quicksilver Ore**—Cinnabar. Cincinnati Mine, Merced County, California. Wm. Woody. December 21, 1888.

10702. **Alum Shale.** Aptos, Santa Cruz County, California. December 21, 1888.

10703. **Clay.** Found near Oakland, Alameda County, California, and used at the Alameda Pottery. December 21, 1888.

10704. **Clay.** Byron Springs, Contra Costa County, California. December 21, 1888.

10705. **Building Stone**—Granite, two varieties. Kerr's Quarry, Santa Cruz, Santa Cruz County, California. December 21, 1888.

10706. **Building Stone,** sandstone. Hall's Ranch, Arroyo Valle, Alameda County, California. December 21, 1888.

10707. **Building Stone,** sandstone. Gallego's Quarry, Mission San José, Alameda County, California. December 21, 1888.

10708. **Limestone.** Guadalupe Quarry, Santa Clara County, California. December 21, 1888.
Large quantities used in the manufacture of lime.

10709. **Limestone.** Moore's Ranch, Santa Barbara County, California. December 21, 1888.

10710. **Limestone.** Ellis Ranch, Santa Clara County, California. December 21, 1888.

10711. **Limestone.** Cienega, San Benito County, California. December 21, 1888.

10712. **Limestone.** Nipomo, San Luis Obispo County, California. December 21, 1888.

10713. **Limestone**—Hydraulic. Byron Springs, Contra Costa County, California. December 21, 1888.

10714. **Limestone**—Hydraulic. From top of hill on Moore's Ranch, Santa Barbara County, California. December 21, 1888.

10715. **Clay.** Indian Creek, Monterey County, California. December 21, 1888.

10716. **Aragonite** (carbonate of calcium). Geyserville, Sonoma County, California. A. H. Ingham. December 21, 1888.

10717. **Sand.** Thought to be suitable for glass-making. San Bernardino County, California. C. L. Metzger. December 21, 1888.

10718. **Hornblende.** Oak Bar, Siskiyou County, California. H. J. Barton. December 21, 1888.

10719. **Greisen**—Quartz and mica. Slack Cañon, Monterey County, California. December 21, 1888.

10720. **Rock Specimen**—Sedimentary, containing small shells, and of a very unusual bright yellow color. Sespe Cañon, Ventura County, California. December 22, 1888.

10721. **Jasper.** Stone Cañon, Monterey County, California. December 22, 1888.

10722. **Dolerite**—Utilized as a building stone. Matherson's quarry, three and one half miles northeast from Concord, Contra Costa County, California. December 22, 1888.

10723. **Arkose**—Feldspathic sandstone. Southeast side of creek at Los Gatos, Santa Clara County, California. December 22, 1888.

10724. **Copper Ore.** Toribio Mine, Cauca, State of Santander, U. S. of Colombia. Herman S. Böhmer. December 22, 1888.

10725. **Auriferous Vein Matter.** Toribio Mine, Cauca, State of Santander, U. S. of Colombia. Herman S. Böhmer. December 22, 1888.

10726. **Barite** (sulphate of barium). Toribio Mine, Cauca, State of Santander, U. S. of Colombia. Herman S. Böhmer. December 22, 1888.

10727. **Gneiss.** Cienega, San Benito County, California. December 22, 1888.

10728. **Copper Ore.** Towle Copper Mine, near Elkhorn, San Benito County, California. December 22, 1888.

10729. **Building Stone**—Trachyte, two varieties. Moro, San Luis Obispo County, California. December 22, 1888.

10730. **Building Stone**, three varieties. Moore's Ranch, Santa Barbara County, California. December 22, 1888.

10731. **Clay.** Used for coarse pottery. Stewartsville, Contra Costa County, California. December 22, 1888.

10732. **Building Stone**—Sandstone, light colored. From above Devil's Gate, Sespe Cañon, Ventura County, California. December 22, 1888.

10733. **Coal.** Los Angeles Mine (formerly called the Castro Mine), near Emmett, San Benito County, California. December 22, 1888.

10734. **Indian Stone Dish** of large size. Steele's Station, San Benito County, California. December 22, 1888.

Probably used in preparing seeds, etc., for food.

10735. **Coal.** Fifty feet from the mouth of the tunnel. Stone Cañon, Monterey County, California. December 22, 1888.

10736. **Coal.** End of tunnel. Stone Cañon, Monterey County, California. December 22, 1888.

10737. **Coal.** Pendarin Mine, near Livermore, Alameda County, California. December 22, 1888.

10738. **Coal.** Right bank of creek, Ashurst's Ranch, Vallecitos, San Benito County, California. December 22, 1888.

10739. **Coal.** Three miles north of San Benito Creek, Sec. 21, T. 17 S., R. 10 E., M. D. M. San Benito County, California. December 22, 1888.

Vein six feet thick and of fair quality.

10740. **Coal.** Coleman Mine, near Livermore, Alameda County, California. December 22, 1888.

10741. **Coal.** Left bank of creek on Ashurst's Ranch, Vallecitos, San Benito County, California. December 22, 1888.

10742. **Fossils.** Vicinity of coal veins, Vallecitos, San Benito County, California. December 22, 1888.

10743. **Building Stone.** Five varieties, one mile from wharf on the road to the Gaviota Pass, Santa Barbara County, California. December 22, 1888.

10744. **Building Stone.** Four varieties, Arroyo Grande, San Luis Obispo County, California. December 22, 1888.

10745. **Building Stone**—Sandstone, three varieties, from a quarry on Barney's Ranch, Martinez, Contra Costa County, California. December 22, 1888.

10746. **Building Stone**—Sandstone, three miles east of Concord, Contra Costa County, California. December 22, 1888.

10747. **Building Stone**—Sandstone, two varieties, Goodrich Quarry, Santa Clara County, California. December 22, 1888.

10748. **Building Stone**—Sandstone. Stanford Quarry, Santa Clara County, California. December 22, 1888.

Used in the construction of the university at Palo Alto.

10749. **Clay.** Agua Caliente, Sonoma County, California. December 22, 1888.

10750. **Graphite.** Eureka, Humboldt County, California. W. Hutchins. December 26, 1888.

10751. **Asbestus.** Elsinore, San Diego County, California. J. D. Hoff. December 26, 1888.

10752. **Copper**—Native, in crystals on organic matter. Appears to be deposited from the water of a spring in Bingham Cañon, Utah. Walter P. Jenney. December 26, 1888.

At the time this specimen was collected more than a ton of metallic copper had been washed out of this material by sluicing.

10753. **Iron Ore**—Magnetite. Hazel Creek, Shasta County, California. Thomas Jones. December 26, 1888.

10754. **Iron Ore**—Magnetite. Near the boundary of the Rancho San Francisco, Los Angeles County, California. H. G. Newhall. December 26, 1888.

10755. **Feldspar**—Orthoclase. Found near Coulterville, Mariposa County, California. J. F. Johnson. December 26, 1888.

It is mined by the Chinese and exported to China, for use in the manufacture of fine porcelain.

10756. **Andalusite** (silicate of aluminum) in matrix of argillaceous schist, with mica. Mariposa County, California. December 26, 1888.

10757. **Magnesite** (carbonate of magnesia). Centerville, King's River, Fresno County, California. E. Everett Smith. December 26, 1888.

10758. **Gold Quartz**, showing free gold (four specimens). Brewery Mine, Los Burros District, Monterey County, California. From the company. December 26, 1888.

10759. **Serpentine.** From near the Black Diamond Mine, Los Burros District, Monterey County, California. December 26, 1888.

10760. **Gold Quartz.** Middle vein of Last Chance Mine, Los Burros District, Monterey County, California. W. D. Cruikshank. December 26, 1888.

10761. **Wall Rock.** Hanging wall of No. 10760. December 26, 1888.

10762. **Wall Rock.** Foot wall of No. 10760. December 26, 1888.

10763. **Sand.** Extra fine quality for brass molding. T. 1, District 1, Contra Costa County, California. H. P. Hardy. December 27, 1888.

10764. **Sand.** Second quality for brass molding. T. 1, District 1, Contra Costa County, California. H. P. Hardy. December 27, 1888.

From four to five hundred tons of this and No. 10763 are annually dug and shipped to the brass foundries of San Francisco.

10765. **Diatomaceous Earth.** Salt Springs, Churchill County, Nevada. E. C. Fleming. December 27, 1888.

10766. **Limestone.** Seven miles south of San Jacinto, San Diego County, California. J. W. Brian. December 27, 1888.

10767. **Granite**—Fine grained. From faulting dyke in the Lyford Mine, Blind Spring Hill, Benton, Mono County, California. December 27, 1888.

10768. **Tufa**—Volcanic. From the hill just above the hot spring at Benton, Mono County, California. December 27, 1888.

10769. **Gold Quartz**, showing free gold. Gold Bank Mine, Butte County, California. H. P. Stow. December 27, 1888.

10770. **Granite.** Dressed and polished specimen from the quarry of the Pacific Stone Company, Raymond, Fresno County, California. From the company. December 27, 1888.

10771. **Silver Ore.** Ivanhoe Mine, Winnicut Lake, Okanogan County, Washington. A. McIntyre. January 5, 1889.

10772. **Marble.** Rock Creek, Plumas County, California. S. S. Taylor. January 5, 1889.

10773. **Chromic Iron.** Spanish Creek, Spanish Ranch, Plumas County, California. S. S. Taylor. January 5, 1889.

10774. **Pyrite** (bisulphide of iron). From the hanging wall of the Kanaka Mine, Groveland District, Tuolumne County, California. January 5, 1889.

10775. **Serpentine**—Cut and polished. Placer County, California. E. W. Harlow. January 5, 1889.
A fine ornamental stone, semi-translucent before a strong light.

10776. **Gold Quartz.** Stribling Mine, Rancho El Refugio, Santa Cruz County, California. January 5, 1889.

10777. **Wall Rock.** Hanging wall of No. 10776. January 5, 1889.

10778. **Wall Rock.** Foot wall of No. 10776. January 5, 1889.

10779. **Gouge** of No. 10776. January 5, 1889.

10780. **Gold Quartz.** Manzanita Mine, Los Burros District, Monterey County, California. January 7, 1889.

10781. **Wall Rock.** Hanging wall of No. 10780. January 7, 1889.

10782. **Wall Rock.** Foot wall of No. 10780. January 7, 1889.

10783. **Gold Quartz.** Manchester Mine, Los Burros District, Monterey County, California. January 7, 1889.

10784. **Wall Rock.** Hanging wall of No. 10783. January 7, 1889.

10785. **Wall Rock.** Foot wall of No. 10783. January 7, 1889.

10786. **Gold Quartz.** Grand Pacific Mine, Los Burros District, Monterey County, California. January 7, 1889.

10787. **Gold Quartz.** San Juan Mine, Los Burros District, Monterey County, California. January 7, 1889.

10788. **Gold Quartz.** Scorpion Mine, Los Burros District, Monterey County, California. January 7, 1889.

This mine is on the other side of the ridge.

10789. **Wall Rock.** Hanging wall of No. 10788. January 7, 1889.

10790. **Wall Rock.** Foot wall of No. 10788. January 7, 1889.

10791. **Gold Quartz.** Brewery Mine, Los Burros District, Monterey County, California. January 7, 1889.

10792. **Wall Rock.** Hanging wall of No. 10791. January 7, 1889.

10793. **Wall Rock.** Foot wall of No. 10791. January 7, 1889.

10794. **Gouge** of No. 10791. January 7, 1889.

10795. **Quicksilver Ore.** Woody Mine, Merced County, California. January 7, 1889.

10796. **Quicksilver Ore.** Red Metal Mine, Merced County, California. January 7, 1889.

10797. **Silver Ore.** King William Shaft, Nicola Mine, Kamloops, British Columbia. W. Craib. January 7, 1889.

10798. **Silver Ore.** Tubal Cain Shaft, Nicola Mine, Kamloops, British Columbia. W. Craib. January 7, 1889.

10799. **Silver Ore**—Tetrahedrite, rich in silver. Joshua Shaft, Nicola Mine, Kamloops, British Columbia. W. Craib. January 7, 1889.

10800. **Gold Quartz.** Green Mountain Mine, near Crescent Mills, Plumas County, California. January 7, 1889.

10775. **Serpentine**—Cut and polished. Placer County, California. E. W. Harlow. January 5, 1889.
A fine ornamental stone, semi-translucent before a strong light.

10776. **Gold Quartz.** Stribling Mine, Rancho El Refugio, Santa Cruz County, California. January 5, 1889.

10777. **Wall Rock.** Hanging wall of No. 10776. January 5, 1889.

10778. **Wall Rock.** Foot wall of No. 10776. January 5, 1889.

10779. **Gouge** of No. 10776. January 5, 1889.

10780. **Gold Quartz.** Manzanita Mine, Los Burros District, Monterey County, California. January 7, 1889.

10781. **Wall Rock.** Hanging wall of No. 10780. January 7, 1889.

10782. **Wall Rock.** Foot wall of No. 10780. January 7, 1889.

10783. **Gold Quartz.** Manchester Mine, Los Burros District, Monterey County, California. January 7, 1889.

10784. **Wall Rock.** Hanging wall of No. 10783. January 7, 1889.

10785. **Wall Rock.** Foot wall of No. 10783. January 7, 1889.

10786. **Gold Quartz.** Grand Pacific Mine, Los Burros District, Monterey County, California. January 7, 1889.

10787. **Gold Quartz.** San Juan Mine, Los Burros District, Monterey County, California. January 7, 1889.

10815. **Wall Rock.** Foot wall of No. 10812, in the granite formation. January 8, 1889.

10816. **Wall Rock.** Foot wall of No. 10812, in the slate formation. January 8, 1889.

10817. **Rock Specimen.** From the end of the tunnel in the Zentgraft Mine, after passing through many feet of slate. January 8, 1889.

10818. **Gold Quartz.** Yuba Mine, Washington District, Nevada County, California. January 8, 1889.

10819. **Country Rock.** Two specimens from the shaft of the Yuba Mine, Nevada County, California. January 8, 1889.

10820. **Auriferous Magnetic Pyrite**—Pyrrhotite. Yuba Mine, Nevada County, California. January 8, 1889.

10821. **Gold Quartz**—Showing Tetrahedrite. North Banner Mine, Nevada City, Nevada County, California. January 8, 1889.

10822. **Gold Quartz.** Mountain Mine, Nevada City, Nevada County, California. January 9, 1889.

10823. **Gold Quartz**—Showing Pyromorphite. Rocky Glen Mine, Eureka District, Nevada County, California. January 9, 1889.

10824. **Gold Quartz.** Gaston Ridge, Nevada County, California. January 9, 1889

10825. **Auriferous Vein Matter.** French Corral, Nevada County, California. January 9, 1889.

10826. **Auriferous Pyrite.** Gold River Gravel Mine, near Damascus, Placer County, California. January 9, 1889.

10827. **Conglomerate.** Characteristic of the pay channel at the Derbec Drift Mine, Nevada County, California. January 9, 1889.

10828. **Gold Quartz.** Big Oak Tree Mine, near Colfax, Placer County, California. January 9, 1889.

10829. **Wall Rock.** Hanging wall of No. 10828. January 8, 1889.

10830. **Wall Rock.** Foot wall of No. 10828. January 9, 1889.

10831. **Gold Quartz.** Butts Mine (formerly the Hathaway), Placer County, California. January 9, 1889.

10832. **Gold Quartz.** Plumas Eureka Mine, Johnstown, Plumas County, California. January 9, 1889.

10833. **Calcite** (carbonate of calcium), found in Serpentine, Butte County, California. January 9, 1889.

10834. **Pebbles**, from the North Bloomfield Mine, Nevada County, California. January 9, 1889.
Showing the effect of light in causing the deposition of iron oxide.

10835. **Clay Shale**, with Pyrites, said to be auriferous. North Fork of the American River, near Iowa Hill, Placer County, California. January 9, 1889.

10836. **Molybdenite** (sulphide of molybdenum) in Quartz. Mayflower Mine, Nevada City, Nevada County, California. January 9, 1889.

10837. **Auriferous Magnetic Black Sand.** Oro Fino Gravel Mine, near Dogtown, Butte County, California. January 9, 1889.

10838. **Auriferous Magnetic Black Sand.** Aurora Drift Mine, near Dogtown, Butte County, California. January 9, 1889.

10839. **Building Stone.** Angel Island, Marin County, California. January 9, 1889.

10840. **Rock Specimen.** Shale, with thin seams of gypsum. Santa Barbara County, California. Dr. Lorenzo G. Yates. January 10, 1889.

10841. **Gold Quartz,** showing free gold. Keystone Mine, Amador, Amador County, California. January 10, 1889.

10842. **Gold Quartz.** Gover Mine, Drytown District, Amador County, California. January 10, 1889.

10843. **Wall Rock.** Hanging wall of No. 10842. January 10, 1889.

10844. **Auriferous Vein Matter.** Rich Gulch or Curtis' Mine, Amador County, California. January 10, 1889.

10845. **Wall Rock.** Hanging wall of No. 10844. January 10, 1889.

10846. **Wall Rock.** Foot wall of No. 10844. January 10, 1889.

10847. **Gold Quartz.** McKenzie Mine, Amador County, California. January 10, 1889.

10848. **Gold Quartz.** Tregloan Mine, Amador County, California. January 10, 1889.

10849. **Gold Quartz.** Valparaiso Mine, Middle Bar, Amador County, California. January 10, 1889.

10850. **Wall Rock.** Hanging wall of No. 10849. January 10, 1889.

10851. **Wall Rock.** Foot wall of No. 10849. January 10, 1889.

10852. **Gold Quartz.** Robinson Mine, Middle Bar, Amador County, California. January 10, 1889.

10853. **Gold Quartz.** Mammoth Mine, Middle Bar, Amador County, California. January 10, 1889.

10854. **Wall Rock.** Hanging wall of No. 10853. January 10, 1889.

10855. **Wall Rock.** Foot wall of No. 10853. January 10, 1889.

10856. **Gold Quartz.** Volunteer Mine, Kennedy Flat, Amador County, California. January 10, 1889.

10857. **Gold Quartz.** Cleveland Mine, near Big Bar Bridge, Amador County, California. January 10, 1889.

10858. **Building Stone.** Irishtown, Amador County, California. January 10, 1889.

10859. **Iron Ore.** Chapman Mine, Irishtown, Amador County, California. January 10, 1889.

10860. **Iron Ore.** Deterts' Mine, Campo Seco, Calaveras County, California. January 10, 1889.

10861. **Implement of Jade.** From the South Sea Islands (probably Fiji). A. Madsen. January 10, 1889.

10862. **Building Stone.** Hugill Quarry, Nipomo Ranch, near Arroyo Grande, San Luis Obispo County, California. J. F. Beckett. January 11, 1889.

10863. **Gold Quartz**—Rich in free gold. Harrisburg, Alaska. C. J. Paine. January 11, 1889.

10864. **Building Stone**—Indurated Volcanic Ash, Volcano, Amador County, California. January 11, 1889.

10865. **Limonite** (hydrate of iron). A pseudomorph after Pyrite. Mineral King District, Tulare County, California. M. Braverman. January 11, 1889.

10866. **Quartz Crystals.** Eagle Mine, Churchill County, Nevada. From the company. January 11, 1889.

10867. **Silver Ore**—Rich in horn silver (cerargyrite). Eagle Mine, Hot Springs District, Churchill County, Nevada. From the company. January 11, 1889.

10868. **Silver Ore**—Argentite in gangue of Barite. Eagle Mine, Hot Springs District, Churchill County, Nevada. From the company. January 11, 1889.

10869. **Silver Ore**—Argentite, with Molybdate of Lead. Eagle Mine, Hot Springs District, Churchill County, Nevada. From the company. January 11, 1889.

10870. **Silver Ore**, showing native silver and free gold. Eagle Mine, Hot Springs District, Churchill County, Nevada. This and four preceding numbers presented by the owners: Messrs. Woodruff, McRacken, Caldwell, and Kenyon. January 11, 1889.

10871. **Silver Ore** (argentiferous galena). Yellowstone Mine, Castle District, headwaters of Musselshell River, Meagher County, Montana. J. Hemsley. January 14, 1889.

10872. **Wulfenite** (molybdate of lead). Tecoma, Elko County, Nevada. January 16, 1889.

10873. **Fossil Shell.** Found at an elevation of 9,000 feet at Banos del Toro, Andes Mountains, Chile. C. T. Ward. January 21, 1889.

10874. **Mummy Eyes.** Bolivia. C. T. Ward. January 21, 1889.

10875. **Very Ancient Peruvian Pottery**, from Inca Indian graves. C. T. Ward. January 21, 1889.

10876. **Very Ancient Peruvian Pottery**, from Inca Indian graves. C. T. Ward. January 21, 1889.

10877. **Copper.** Precipitated from the water flowing from the Andacolla Mine, Chile. C. T. Ward. January 21, 1889.

10878. **Iodine.** Tocopilla, Chile. C. T. Ward. January 21, 1889.

Probably a bye product in refining niter.

10879. **Manganese Ores**—High grade, large quantities of which are exported. Carrazal, Chile. C. T. Ward. January 21, 1889.

10880. **Manganese Ores**—Arayan, Chile. C. T. Ward. January 21, 1889.

10881. **Wall Rock**—Altered Quartz Diorite, north wall, at 400-foot level of the Plumas Consolidated Mine, Plumas County, California. January 28, 1889.

10882. **Wall Rock**—Argillaceous Chloritic Shale. South wall, at 400-foot level of the Plumas Consolidated Mine, Plumas County, California. January 28, 1889.

10883. **Calcite** (carbonate of calcium). Acton, Los Angeles County, California. J. B. Taylor. January 28, 1889.

10884. **Auriferous Pyrite.** Honduras Mine, Beaver District, Idaho. P. Markson. January 30, 1889.

10885. **Silver Ore** (argentiferous galena). Tuscumbia Mine, Beaver District, Cœur d'Alene, Idaho. P. Markson. January 30, 1889.

10886. **Silver Ore.** La Una Mine, Washington. P. Markson. January 30, 1889.

10887. **Silver Ore.** Tip Mine, Beaver District, Cœur d'Alene, Idaho. P. Markson. January 30, 1889.

10888. **Silver Ore.** Sitting Bull Mine, Beaver District, Cœur d'Alene, Idaho. P. Markson. January 30, 1889.

10889. **Silver Ore.** Sunset Mine, Cœur d'Alene, Idaho. P. Markson. January 30, 1889.

10890. **Silver Ore.** Topaz, Mono County, California. J. A. Job. January 30, 1889.

10891. **Tourmaline** (boro silicate of aluminum and magnesium). Fresno County, California. E. E. Smith. February 2, 1889.

10892. **Chromic Iron.** Perris, San Diego County, California. Ed. L. Peebles. February 2, 1888.

10893. **Cinnabar** (sulphide of mercury). Camp Floyd District. Tooele County, Utah. M. T. Gisborn. February 4, 1889.

10894. **Cinnabar** (sulphide of mercury) in Barite. Camp Floyd District, Tooele County, Utah. M. T. Gisborn. February 4, 1889.

10895. **Vein Matter**—Clay, containing Cinnabar and Gold. Camp Floyd District, Tooele County, Utah. M. T. Gisborn. February 4, 1889.

10896. **Gold Quartz,** showing free gold. Platt and Gilson Mine, Soulsbyville, Tuolumne County, California. Richard Pahl. February 6, 1889.

10897. **Bernardinite.** A hydrocarbon, the origin of which is doubtful. Lassen County, California. L. L. Frost. February 11, 1889.

It is composed of carbon 64.3, oxygen 26.2, hydrogen 9.2, and is combustible without residue.

10898. **Copper Ore.** Better-half Mine, Copper Creek, Trinity County, California. Archd. B. McCaw. February 12, 1889.

Average width of vein, ten feet; hanging wall, porphyry; foot wall, serpentine. Nodules of very rich ore are found in the vein, principally on the foot wall.

10899. **Quicksilver Ore**—Cinnabar in basanite, between layers of agatized quartz. Manhattan Mine, Napa County, California. R. F. Knox. February 15, 1889.

10900. **Quicksilver Ore**—Cinnabar associated with stibnite. Stayton Mine, fourteen miles northeast from Hollister, San Benito County, California. R. F. Knox. February 15, 1889.

10901. **Quartz**—With veins of Agate. Vicinity of Manhattan Mine, Napa County, California. R. F. Knox. February 15, 1889.

10902. **Gold Quartz**—Showing free gold. Blake Mine, White County, Georgia. Dr. Gorham Blake. February 19, 1889.

10903. **Gypsum** (hydrous sulphate of calcium). Near Santa Cruz, Santa Cruz County, California. A. L. Bartlett. February 20, 1889.

10904. **Gypsum** (hydrous sulphate of calcium). T. 19 S., R. 15 E., M. D. M. Fifteen miles west of Huron, Fresno County, California. Joseph H. Jory. February 20, 1889.

10905. **Quartz**—Ferruginous, of variegated colors. From a large ledge in Bennett Valley, Sonoma County, California. J. P. Stanley. February 25, 1889.

10906. **Amblygonite** (phosphate of aluminum, and fluoride of lithium). Mount Mica Mine, Paris, Maine. J. P. Stanley. February 25, 1889.

10907. **Mica**—Plumose (silicate of aluminum and potassium). Groton, New Hampshire. J. P. Stanley. February 25, 1889.

10908. **Mica**—"Ribbon Mica." Groton, New Hampshire. J. P. Stanley. February 25, 1889.

10909. **Gold Quartz.** Gladstone Mine, French Gulch, Shasta County, California. A. McGregor. February 26, 1889.

10910. **Chromic Iron.** From a deposit now being worked at Chromite, Shasta County, California. Kruse & Euler. February 27, 1889.

10911. **Chromic Iron.** North Fork of the East Fork of the Trinity River. Trinity County, California. Archd. B. McCaw. February 28, 1889.

10912. **Quicksilver Ore.** Madre Mine (near the Altoona Mine), Trinity County, California. Archd. B. McCaw. February 28, 1889.

10913. **Quicksilver Ore**—Cinnabar, associated with Stibnite. San Luis Obispo County, California. Archd. B. McCaw. February 28, 1889.

10914. **Scheelite** (tungstate of calcium). Beaver District, Cœur d'Alene, Idaho. P. Markson. March 1, 1889.

10915. **Sulphate of Soda.** Collected from the water of Salt Lake, Utah, during very cold weather. Elias Morris. March 2, 1889.

10916. **Sulphate of Soda**—Recrystallized from No. 10915, and "Soda Ash" made from it, of which large quantities have been used in the glass works at Salt Lake City. Made at the Salt Lake Chemical Works. Elias Morris. March 2, 1889.

10917. **Auriferous partially decomposed Porphyry,** La Gloria Mine, Cerro Colorado, Batopilas, Chihuahua, Mexico. E. H. Cole. March 4, 1889.

10918. **Auriferous partially decomposed Porphyry,** (two specimens), very rich in free gold. San Gabriel Mine, Cerro Colorado, Batopilas, Chihuahua, Mexico. E. H. Cole. March 4, 1889.

10919. **Coal.** Chinick Bay, Alaska. Capt. C. J. Hague. March 5, 1889.

10920. **Coal.** Alton Island, Alaska. Capt. C. J. Hague. March 5, 1889.

10921. **Silver Ore.** Portage Bay, opposite Unga Island, Alaska. Captain C. J. Hague. March 5, 1889.

10922. **Silver Ore.** King Mine, Unga Island, Alaska. Capt. C. J. Hague. March 5, 1889.

10923. **Silver Ore.** Olgen Mine, Unga Island, Alaska. Capt. C. J. Hague. March 5, 1889.

10924. **Silver Ore,** with gold (four specimens). Apollo Mine, Unga Island, Alaska. Capt. C. J. Hague. March 5, 1889.

10925. **Silver Ore** (three specimens). Hague Mine, Oonalaska Island, Alaska. Capt. C. J. Hague. March 5, 1889.

10926. **Tin Ore**—Cassiterite in Quartzite. Pennington County, Dakota. George H. Reilly. March 6, 1889.

10927. **Gold Quartz**—Very rich in free gold. Delhi Mine, Columbia Hill District, Nevada County, California. R. McMurray. March 7, 1889.

10928. **Building Stone**—Red sandstone. From a quarry at Ione, Amador County, California. A. Abbott. March 8, 1889.

This specimen was broken from a doorstep that had been in use for over twenty years. Used in the construction of the California Bank building, corner of Fourth and J Streets, Sacramento, California.

10929. **Silver Ore**, very rich, and said to carry a high percentage of gold, broken from a mass weighing over four hundred pounds. It is rich argentiferous galena, with a large proportion of "horn silver" (chloride of silver). Mono Mine, Dry Cañon, Ophir District, Tooele County, Utah. M. T. Gisborn. March 9, 1889.

10930. **Bezoar Stone.** Concretion taken from the stomach of a deer killed near Groveland, Tuolumne County, California. George R. Sprague. March 9, 1889.

10931. **Buhr Stone.** La Ferte sous Jouarres, Dept. de Seine et Marne, France. A. Blanc. March 9, 1889.

10932. **Silver Ore.** O'Ryne Mine, Mogul District, Alpine County, California. March 11, 1889.

10933. **Gold Quartz**—With Calcite, also auriferous. Large specimen, the length of which is the width of the vein. Norwegian Mine, northwest side of Jackass Hill, Robinson's Ferry, Tuolumne County, California. John Lawson. March 11, 1889.

10934. **Gold Quartz**—Rich specimens, showing free gold and telluride of gold. Norwegian Mine, Tuolumne County, California. John Lawson. March 11, 1889.

10935. **Chrysoprase.** Douglas County, Oregon. Miss Blanche Brumagim. March 11, 1889.

10936. **Auriferous Sand.** Yakutat, northwest from Juneau, Alaska. Mrs. Mills. March 12, 1889.
Contains magnetite, chromic iron, and two varieties of garnets.

10937. **Indian Metate,** of conglomerate, a very unusual material. Susanville, Lassen County, California. T. B. Sanders. March 12, 1889.

10938. **Indian Stone Implement** for grinding seeds on Metate. Santa Rosa, Sonoma County, California. J. Z. Davis. March 12, 1889.

10939. **Silver Ore**—Tetrahedrite, with Barite. Spar Mine, Ouray County, Colorado. A. B. McCaw. March 12, 1889.

10940. **Rock Specimen**—Argillaceous Clay Ironstone. Ventura County, California. Dr. S. Bowers. March 13, 1889.

10941. **Magnetite** (protosesquioxide of iron) in quartz, which shows traces of gold. Ventura County, California. Dr. S. Bowers. March 13, 1889.

10942. **Gold Quartz.** Ventura County, California. Dr. S. Bowers. March 13, 1889.

10943. **Clay**—Kaolin, Lordsburg, New Mexico. J. M. Addis. March 13, 1889.

10944. **Dolomite** (magnesian limestone). Los Alamos, Santa Barbara County, California. J. R. Stone. March 13, 1889.

10945. **Hornblende.** Siskiyou County, California. Dr. R. Ream. March 13, 1889.

10946. **Manganese Ore**—Impure Pyrolusite. Hunter's Point, San Francisco, California. H. Burnell. March 13, 1889.

10947. **Water-worn Bowlder**—Egg-shaped. French Gulch, Shasta County, California. John Shed. March 13, 1889.

10948. **Sedimentary Formation,** containing several varieties of fresh water diatoms. Mohawk Valley, Plumas County, California. R. D. Perry. March 13, 1889.

10949. **Coal**—Lignite. Chugachick Bay, Cook's Inlet, Alaska. Fred. Vehling. March 13, 1889.

10950. **Quartz**—Agatized variety. Buena Vista, Kern County, California. J. Querolo. March 13, 1889.

10951. **Lava,** or indurated volcanic ash, colored by iron, and containing lead. Said to be argentiferous, and worked as a silver ore. Silver Shield Mine, Ophir District, Tooele County, Utah. M. Wertheimer. March 14, 1889.

10952. **Gold.** Placer gold, from a river near Tampa Tuan, west coast of Sumatra. Dr. Gorham Blake. March 14, 1889.

10953. **Stone Implement**—Chisel or adze. March 15, 1889.

From one of the ancient lake dwellings in Lake Neuchatel, Switzerland, the site of which is, in ordinary seasons, fifteen feet under water. Found there and presented to the Bureau by Fredk. Radelfinger.

10954. **Auriferous Gravel,** from different levels of the Lee Mine, near Rocklin, Placer County, California. T. G. E. Wolleb. March 16, 1889.

10955. **Manganese Ore**—Pyrolusite. Winchester, San Diego County, California. H. H. Roggenkamp. March 16, 1889.

10956. **Silver Ore.** Riverside, San Bernardino County, California. O. C. Wilbur. March 16, 1889.

10957. **Tufa**—Calcareous, of recent formation. Matilija Cañon, Ventura County, California. Dr. S. Bowers. March 16, 1889.

10958. **Brick.** Manufactured without burning. Santa Cruz, Santa Cruz County, California. W. T. Hatch. March 16, 1889.

10959. **Wall Rock**—Syenitic Granite and Aphanite. Inclosing rock of the May Lundy Mine, Mono County, California. M. Attwood. March 16, 1889.

10960. **Clay.** Said to be suitable for the manufacture of porcelain. Lewis River, La Center, Clark County, Washington. William Brothers. March 18, 1889.

10961. **Metaxite**—Fibrous picrolite, a variety of serpentine resembling asbestus, and which might be used for some purposes where a long fiber was not needed. San Bernardino County, California. H. Roggenkamp. March 18, 1889.

10962. **Talc**—Foliated. San Bernardino County, California. H. Roggenkamp. March 18, 1889.

10963. **Serpentine Asbestus.** San Bernardino County, California. H. Roggenkamp. March 18, 1889.

10964. **Graphite**—In clay. Winchester, San Diego County, California. Geo. McDonald. March 18, 1889.

10965. **Silver Ore** (argentiferous antimonial galena). Wooded Hill Mine, Nicola District, Kamloops, British Columbia. C. H. Aaron. March 18, 1889.

10966. **Silver Ore.** Six specimens rich ore, showing native silver, and some free gold on Argentite. Pinos Altos Mine, Pinos Altos, Chihuahua, Mexico. M. A. Delfs. March 19, 1889.

10967. **Wall Rock.** Gold Bank Mine, Forbestown, Butte County, California. H. P. Stow. March 19, 1889.

10968. **Syenite.** Ward's Ranch, Merced River, Mariposa County, California. A. H. Ward. March 19, 1889.

10969. **Iron Ore**—Magnetite. Corning, Tehama County, California. Aitken Maggard. March 19, 1889.

10970. **Prochlorite** (silicate of aluminum, iron, and magnesium), said to contain gold and silver. Gold Bank Mine, Forbestown, Butte County, California. H. P. Stow. March 25, 1889.

10971. **Phosphatic Clay.** Yager, Humboldt County, California. Thos. Dickinson. March 25, 1889.

10972. **Cement Rock.** Yager, Humboldt County, California. Thos. Dickinson. March 25, 1889.

10973. **Vivianite** (phosphate of iron). Yager, Humboldt County, California. Thos. Dickinson. March 25, 1889.

10974. **Orthite** (silicate of aluminum, cerium, iron, and calcium), with calcite and silica. Santa Barbara, California. Lorenzo G. Yates. March 27, 1889.

10975. **Building Stone**—Brown sandstone. From a large body near Fillmore, Ventura County, California. Geo. J. Henley. April 4, 1889.

10976. **Gold Quartz.** Hazzard Mine, Oroville, Butte County, California. W. E. Duncan. April 4, 1889.

10977. **Gold Quartz.** Red Chief Mine, Kanaka Creek, Sierra County, California. L. J. Lewis. April 8, 1889.

10978. **Vein Matter**—Showing the occurrence of Prochlorite and Calcite. Gold Bank Mine, Oroville, Butte County, California. H. P. Stow. April 8, 1889.

10979. **Calcite** (carbonate of calcium) and Calcite with oxidized Pyrite. South Chicago, Illinois. W. J. Lawrence. April 10, 1889.

10980. **Gold Quartz,** incrusted with Calcite, on which appears visible free gold. Monticello Mine, Sulphur Creek, Colusa County, California. L. G. Emerson. April 12, 1889.

10981. **Silver Ore** (argentiferous galena), very rich in silver. Corbyn's Kennedy Claim, Illecillewaet, British Columbia. Robert Richardson. April 13, 1889.

10982. **Coal**—Lignite. South Riverside, San Bernardino County, California. W. N. Cowles. April 15, 1889.

Analysis, S. M. B.:

Moisture and volatile carbonaceous matter	51.50
Fixed carbon	31.50
Ash	17.00
Total	100.00

10983. **Coal**—Lignite. Sec. 3, T. 6 S., R. 7 E., M. D. M., Stanislaus County, California. General H. I. Willey. April 16, 1888.

Analysis, S. M. B.:

Fixed carbon	22.50
Volatile combustible matter	30.60
Moisture	10.00
Ash	36.90
Total	100.00

10984. **Talc** (hydrous silicate of magnesium). Daggett, San Bernardino County, California. C. M. Neyman. April 17, 1889.

10985. **Calcite** (carbonate of calcium), var. Nailhead Spar. Candelaria Mine, San Dimas, Durango, Mexico. C. A. Hamilton and J. H. Crossman. April 17, 1889.

10986. **Wall Rock**—Porphyry. Hanging and foot walls of Candelaria Mine, San Dimas, Durango, Mexico. C. A. Hamilton and J. H. Crossman. April 17, 1889.

10987. **Silver Ore**, rich in Native Silver. Candelaria Mine, San Dimas, Durango, Mexico. C. A. Hamilton and J. H. Crossman. April 17, 1889.

10988. **Silver Ore**—Argentiferous tetrahedrite (gray copper), with silicate and carbonate of copper. Candelaria Mine, San Dimas, Durango, Mexico. C. A. Hamilton and J. H. Crossman. April 17, 1889.

10989. **Silver Ore**—Argentiferous tetrahedrite (gray copper), called "Petanko" by the Mexican miners. Candelaria Mine, San Dimas, Durango, Mexico. C. A. Hamilton and J. H. Crossman. April 17, 1889.

10990. **Silver Ore**—Argentiferous tetrahedrite (gray copper). La Trinidad Mine, Sonora, Mexico. C. A. Hamilton and J. H. Crossman. April 17, 1889.

10991. **Gold Quartz**, showing free gold. Los Muletos Mine, Sonora, Mexico. C. A. Hamilton and J. H. Crossman. April 17, 1889.

10992. **Gold Quartz**, rich in free gold. San Nicolas Mine, San Rafael Valley, Lower California, Mexico. Martin Lintner. April 17, 1889.

10993. **Gold Quartz.** Oro Grande, San Bernardino County, California. H. C. Adams. April 18, 1889.

10994. **Sulphur**—Crude, as mined in Yesso, Japan. Ezra Clark. April 18, 1889.

10995. **Sulphur**—Partially refined, as imported to San Francisco from Yesso, Japan. Ezra Clark. April 18, 1889.

10996. **Coal**—Anthracite. From a mine now being worked at Cowgitz, Queen Charlotte's Island, British Columbia. Edgar Fawcett. April 20, 1889.

10997. **Fossils**—Found in the vicinity of the Cowgitz Coal Mine, Queen Charlotte's Island, British Columbia. Edgar Fawcett. April 20, 1889.

10998. **Arrows**, tipped with the deadly "Ourali" poison. From the Royal Agricultural and Commercial Society, Demerara, British Guiana. April 20, 1889.

Used by the natives of British Guiana by means of a "blow gun" or hollow reed about six feet long, through which they are blown for a considerable distance with great precision, a little cotton being wound about the lower end of the arrow to fill the tube. Large game is killed with these insignificant looking weapons, the poison being very rapid in its effects.

10999. **Queyu,** dress of native Indian women of British Guiana. From the Royal Agricultural and Commercial Society, Demerara, British Guiana. April 20, 1889.

Made of beadwork, the peculiarity of which consists in both sides being precisely the same.

11000. **Wood Specimens,** seventy-two samples of the cabinet woods of British Guiana, placed in the same order as in the following list. From the Royal Agricultural and Commercial Society of Demerara, British Guiana. April 20, 1889.

1. Aramata.
2. Arrisouroo.
3. Assakoola.
4. Assapaka.
5. Bania—Swartzia tomentosa.
6. Bimiti—Wallaba.
7. Bibiru—Nectandra rodiœi (green heart).
8. Black Heart.
9. Buhoorada.
10. Burada.
11. Buro-koro—Paratinera aubletii.
12. Burueh—Sapota mulleri (Bullet Tree).
13. Caraba—Red.
14. Caraba—White—Carapa guianensis (crabwood).
15. Ciroua Balli—Brown.
16. Ciroua Balli—Yellow—Nectandra pisi.
17. Dakama Balli—Vouacapona americana.
18. Determa—Nectandra wana.
19. Duka.
20. Dukala—Balli.
21. Dukuria.
22. Eta—Balli.
23. Eta—Palm.
24. Eueri—Balli.
25. Fustic—Maclura tinctoria.
26. Hackia—Siderodendron triflorum.
27. Hiawa—Icica heptaphylla.
28. Hiawa Balli—Omphalobium lamberti.
29. Hitchia.
30. Houboo Balli—Mimosa guianensis.
31. Irriariadan.
32. Itikiboura Balli—Machærium.
33. Kakaralli—Lecythis ollaria.
34. Kamahura.
35. Kamarakata.
36. Kokatarra.

37. Koola—Balli.
38. Koorikye.
39. Kooroo—Balli (Trysil).
40. Kooroobooilli—Copaifera publiflora.
41. Kumara—Dipterix odorata (Tonquin Bean).
42. Kurahara.
43. Kurana—Icica altissima.
44. Kyearimma.
45. Lignum Vitæ—Guiacum officinale.
46. Mahogany—Swietenia mahogani.
47. Mamoori—Balli.
48. Manni—Balli.
49. Marci—Balli—Bignonia leucoxylon.
50. Mora—Mora excelsa.
51. Oolu.
52. Pakooru.
53. Sacka.
54. Seebadani.
55. Sibidanni.
56. Siki Siki Danna.
57. Simarupa—Simaruba officinalis.
58. Simiri—Hymenœa courbaril.
59. Siribidanni.
60. Snake Nut—Ophiocaryon paradoxum.
61. Souari—Caryocar tomentosum.
62. Suradanni.
63. Tamarind—Tamarindus indica.
64. Tataboo.
65. Tawaronero—Bumelia nigra.
66. Tibicusi.
67. Tooroo Palm.
68. Wadadura—Lecythis grandiflora.
69. Wallaba—Eperua falcata.
70. Wamaru.
71. Waracouri.
72. Washiba—Paratinera guianensis.

11001. **Ballata Gum**—"Leaf Ballata," a variety of crude indian-rubber. This specimen has been run on a banana leaf to solidify. Large amounts of this are exported from the colony. Royal Society of Demerara, British Guiana. April 20, 1889.

11002. **Bone Flute**, of native manufacture. Royal Society of Demerara, British Guiana. April 20, 1889.

11003. **Simiri Gum,** used for making varnish. Royal Society of Demerara, British Guiana. April 20, 1889.

11004. **Hiawa Gum,** employed in the manufacture of incense. Royal Society of Demerara, British Guiana. April 20, 1889.

11005. **Monkey Pots,** two varieties; seed vessels of the Wadadura tree. Often temporarily employed by the natives as cooking utensils. Royal Society of Demerara, British Guiana. April 20, 1889.

11006. **Seed of the Bibiru or Greenheart Tree,** from which is made the alkaloid called "biberine," which has been employed to some extent as a substitute for quinine. Royal Society of Demerara, British Guiana. April 20, 1889.

11007. **Fire Sticks,** in use by the natives in the interior for producing fire. Royal Society of Demerara, British Guiana. April 20, 1889.

11008. **Necklace,** worn by the natives of Guiana. Made of the teeth of the Peccary, or "Bush Hog." Royal Society of Demerara, British Guiana. April 20, 1889.

11009. **Cigarette Wrappers,** made from the spathe of the Manicole Palm (Euterpe edulis). Royal Society of Demerara, British Guiana. April 20, 1889.

11010. **Silk-grass Fiber,** made from the leaves of the Caratas or wild pineapple, which are from eight to ten feet long. Royal Society of Demerara, British Guiana. April 20, 1889.

11011. **Wood Specimens.** Twenty-seven samples of cabinet woods of British Guiana. Royal Society of Demerara.

A. Awati.
B. Barradanna.
C. Barta-Balli (Achras mammosa).
D. Courida.
E. Foglekop.

F. Fukadie.
G. Hooboodie (Anacardium—Wild cashew).
H. Hoorihea.
I. Itoori Wallaba (Eperua.)
J. Kabukalli.
K. Karahura.
L. Karkawa.
M. Kartaback Kooki.
N. Kanooka.
O. Kauta—Balli.
P. Keritee.
Q. Kuraroo (Bat Seed).
R. Kyeta.
S. Lallifer.
T. Manchineel. (West Indies).
U. Moora—Balli.
V. Morabucquia.
W. Oorilla (Blood wood).
X. Subileroeballi.
Y. Waibaima.
Z. Wauri.
Aa. Wild Guava.

11012. **Molybdenite** (sulphide of molybdenum). Three Rivers, Tulare County, California. M. Braverman. April 20, 1889.

11013. **Copper Ore**—Two varieties, and copper smelted from it. Black Knife Mine, Sierra County, New Mexico. C. H. Laidlaw. April 24, 1889.

11014. **Silver Ore**, showing native silver. Silver Monument Mine, Sierra County, New Mexico. C. H. Laidlaw. April 24, 1889.

11015. **Silver Ore.** Pelican group of mines. Hermosa, New Mexico. C. H. Laidlaw. April 24, 1889.

11016. **Silver Ore.** Humming Bird Mine, Hermosa, New Mexico. C. H. Laidlaw. April 24, 1889.

11017. **Silver Ore.** German Mine, Cuchillo Mountains, New Mexico. C. H. Laidlaw. April 24, 1889.

11018. **Silver Ore**—Argentite, very rich. Bullion Mine, Kingston, New Mexico. C. H. Laidlaw. April 24, 1889.

11019. **Precipitate,** from the lixiviation of the ores of the Silver Monument Mine by the Russell process. C. H. Laidlaw. April 24, 1889.

11020. **Lepidolite** (silicate of aluminum, potassium, and lithium). San Diego, California. R. Garvey. April 24, 1889.

11021. **Gold Quartz,** averaging over ten ounces of gold per ton. Sheba Mine, De Kaap District, Transvaal, South Africa. R. D. Atkins. April 29, 1889.

11022. **Auriferous Conglomerate,** locally called "Banket." From a ledge two feet thick between sandstone walls, and which is profitably worked. Witwatersrand, Johannesburg District, Transvaal, South Africa. R. D. Atkins. April 29, 1889.

11023. **Tourmaline in Mica.** Harney Peak Tin Mines. Dakota. R. D. Atkins. April 29, 1889.

11024. **Tantalite** (tantalate of iron). Harney Peak Tin Mines, Dakota. R. D. Atkins. April 29, 1889.

11025. **Tin Ore**—Cassiterite, with Green Tourmaline, in Feldspar. Harney Peak Tin Mines, Dakota. R. D. Atkins. April 29, 1889.

11026. **Tin Ore**—Cassiterite, very rich specimen. Harney Peak Tin Mines, Dakota. From the Company. April 29, 1889.

11027. **Tin Ore**—Cassiterite, in a quartzose gangue. Harney Peak Tin Mines, Dakota. From the Company. April 29, 1889.

11028. **Tin Ore**—Cassiterite, in a micaceous gangue. Harney Peak Tin Mines, Dakota. From the Company. April 29, 1889.

11029. **Calcite Geode.** Hancock County, Illinois. M. Braverman. May 1, 1889.

11030. **Quartz Geode,** with Calcite and Iron. Hancock County, Illinois. M. Braverman. May 1, 1889.

11031. **Gold Quartz.** From the lowest workings of the Providence Mine, Nevada City, Nevada County, California. From the Company. May 1, 1889.

11032. **Dolomite;** var. "Pearl Spar" (carbonate of calcium and magnesium), on Calcite. Durham, England. J. W. Foss. May 8, 1889.

11033. **Silver Ore**—Proustite and Pyrargyrite. Caiman Lode, Bocaneme, United States of Colombia. D. T. Hughes. May 14, 1889.

11034. **Silver Ore**—Proustite and Argentite. Caiman Lode, Bocaneme, United States of Colombia. D. T. Hughes. May 14, 1889.

11035. **Wall Rock**—Feldspar and Quartz. Hanging wall of Nos. 11033–34. May 14, 1889.

11036. **Wall Rock**—Foot wall of Nos. 11033–34. May 14, 1889.

11037. **Silver Ore.** China District, Bocaneme, United States of Colombia. D. T. Hughes, May 14, 1889.

11038. **Silver Ore** (argentiferous galena). Mina de Frias, Bocaneme, United States of Colombia. May 14, 1889.

11039. **Silver Ore.** El Cristo Mine, Bocaneme, United States of Colombia. D. T. Hughes. May 8, 1889.

11040. **Wall Rock**—Silicious Slate. Forms both walls of No. 11039. May 14, 1889.

11041. **Copper Ore**—Bornite. China District, United States of Colombia. D. T. Hughes. May 14, 1889.

11042. **Iron Ore**—Magnetite. Pazande District, United States of Colombia. D. T. Hughes. May 14, 1889.

11043. **Slag,** from ancient Spanish smelting furnaces. Bocaneme, United States of Colombia. D. T Hughes. May 14, 1889.

11044. **Wood,** from ancient Spanish workings; buried for over one hundred years in the Bocaneme mines, and is still perfectly sound. United States of Colombia. D. T. Hughes. May 14, 1889.

11045. **Pyrrhotite** (magnetic sulphide of iron) and Pyrite. Placer County, California. May 14, 1889.

11046. **Lignite.** Santa Rosa, Sonoma County, California. L. M. King. May 14, 1889.

Analysis, S. M. B.:

Fixed carbon	34.25
Volatile carbonaceous matter	41.50
Moisture	14.75
Ash	9.50
Total	100.00

11047. **Clay.** Layer next to the Lignite, No. 11046, and said to be in large quantity. Santa Rosa, Sonoma County, California. L. M. King. May 14, 1889.

11048. **Iron Ore**—Magnetite of good quality, and said to occur in large quantity. T. 30 to 11 W., R. N., Trinity County, California. J. A. Heslewood. May 14, 1889.

11049. **Sand,** containing Magnetite, Chromite, Zircons, Garnets, and Beryls. Los Alamos, Santa Barbara County, California. S. D. Sime. May 14, 1889.

11050. **Silver Ore.** National Bank Mine, near the Carlisle Mine, Carlisle, Steeple Rock District, Grant County, New Mexico. F. B. Austin. May 14, 1889.

11051. **Auriferous Vein Matter.** Delmarcia Mine, Kelsey District, El Dorado County, California. May 16, 1889.

11052. **Gold Quartz.** El Dorado Big Tunnel, Placerville, El Dorado County, California. May 16, 1889.

11053. **Gold Quartz.** Rupely Mine, Smith Flat, Placerville, El Dorado County, California. May 16, 1889.

11054. **Wall Rock** of No. 11053. May 16, 1889.

11055. **Gold Quartz,** rich in free gold. Fifteen hundred foot level of the North Star Mine, Grass Valley, Nevada County, California. From the Company. May 16, 1889.

11056. **Concentrations,** from the vein matter of the North Star Mine, Grass Valley, Nevada County, California. May 16, 1889.

11057. **Gold Quartz.** Delhi Mine, Columbia Hill, Nevada County, California. May 16, 1889.

11058. **Wall Rock.** Hanging wall of pay shoot of the Delhi Mine, No. 11057. May 16, 1889.

11059. **Wall Rock.** Foot wall of pay shoot of the Delhi Mine, No. 11057. May 16, 1889.

11060. **Gold Quartz.** Nevada City Mine, Nevada City, Nevada County, California. May 16, 1889.

11061. **Gold Quartz.** Nevada County Mine, Nevada City, Nevada County, California. May 16, 1889.

11062. **Gold Quartz.** Banner Mine, Nevada City, Nevada County, California. May 16, 1889.

11063. **Wall Rock.** Hanging wall of No. 11062. May 16, 1889.

11064. **Wall Rock.** Foot wall of No. 11062. May 16, 1889.

11065. **Zinkenite** (sulphantimonide of lead). Triumfo, Lower California, Mexico. May 18, 1889.

11066. **Flakes of Chert.** From an Indian mound in Kern County, California; probably refuse from making arrow and spear heads, etc. J. Z. Davis. May 20, 1889.

11067. **Indian Cooking Vessel**—Pottery. Drum Valley, Tulare County, California. J. Z. Davis. May 20, 1889.

11068. **Indian Cooking Vessel**—Pottery. Lewis Creek, Tulare County, California. J. Z. Davis. May 20, 1889.

11069. **Indian Dish or Ladle**—Soapstone. Lewis Creek, Tulare County, California. J. Z. Davis. May 20, 1889.

11070. **Fragments of Indian Pottery and Stone Vessels.** Three Rivers, Tulare County, California. J. Z. Davis. May 20, 1889.

11071. **Indian Implement,** skin dresser. Drum Valley, Tulare County, California. J. Z. Davis. May 20, 1889.

11072. **Indian Stone Hammer.** Mill Creek, Tulare County, California. J. Z. Davis. May 20, 1889.

11073. **Indian Stone Arrowhead Dresser.** Antelope Valley, Tulare County, California. J. Z. Davis. May 20, 1889.

11074. **Indian Stone Hatchet.** Arizona. J. Z. Davis. May 20, 1889.

11075. **Indian Stone Pestles,** three specimens. Tulare County, California. J. Z. Davis. May 20, 1889.

11076. **Indian Amulet** of a kind not uncommon in California. They are generally nodules of Barite (heavy spar) rudely engraved, and were prized by the Indians for their supposed occult virtues. Fresno County, California. J. Z. Davis. May 20, 1889.

11077. **Large Indian Mortar and Pestle** of good shape and unusual excellence of workmanship. Found near Tulare Lake, Tulare County, California. J. Z. Davis. May 20, 1889.

11078. **Indian Metate and Muller.** Buena Vista, Kern County, California. J. Z. Davis. May 20, 1889.

11079. **Indian Mortar with Pestle,** of uncommon shape. Squaw Valley, Fresno County, California. J. Z. Davis. May 20, 1889.

11080. **Indian Mortar and Pestle.** Buena Vista, Kern County, California. J. Z. Davis. May 20, 1889.

11081. **Indian Mortar and Pestle.** Found near Kern Lake, Kern County, California. J. Z. Davis. May 20, 1889.

11082. **Indian Mortar.** Nigger Creek, Tulare County, California. J. Z. Davis. May 20, 1889.

11083. **Indian Mortar.** Sec. 8, T. 19, R. 24 E. Tulare County, California. J. Z. Davis. May 20, 1889.

11084. **Indian Mortar.** Mill Creek, Tulare County, California. J. Z. Davis. May 20, 1889.

11085. **Indian Mortar and Pestle.** Antelope Valley, Tulare County, California. J. Z. Davis. May 20, 1889.

11086. **Indian Pestles,** two specimens. Tulare County, California. J. Z. Davis. May 20, 1889.

11087. **Arrowheads,** three specimens, made of quartz. Illinois. J. Z. Davis. May 20, 1889.

11088. **Furnace Products.** Series of specimens illustrating the process of smelting at the Hanauer Works, Salt Lake City, Utah. May 21, 1889.
See eighth annual report of State Mineralogist, pp. 804–831.

A. Crystalline Speiss.
B. Amorphous Speiss.
C. Copper Matte.
D. Iron Matte.
E. Slags, six specimens.

11089. **Furnace Products.** Series of specimens illustrating the process of smelting at the Pueblo Smelting Works, Pueblo, Colorado. O. H. Hahn. May 21, 1889.

A. **Silver Ore** (argentiferous galena). Madonna Mine, Chaffee County, Colorado.
B. **Speiss,** from blast furnace.
C. **Matte and Speiss,** from slag pot.
D. **Wall Accretions,** containing 40 per cent of zinc, and twenty and one half ounces of silver per ton.
E. **Wall Accretions.**
F. **Arsenious Acid,** from stall roasting the matte-speiss.
G. **Realgar,** from roasting the matte-speiss.
H. **Slag,** one to one, very acid.*
I. **Slag,** half to one.
J. **Slag,** three quarter, basic.
K. **Slag,** from one hundred and twenty-eight pound charges.
L. **Roasted Matte.**
M. **El Moro Coke,** price $6 per ton at Pueblo, Colorado.

*The terms one to one, half to one, etc., denote the oxygen ratio of bases to acid.

11090. **Gold,** on a silicious rock formation, which has apparently been deposited from a hot spring. These specimens peculiar to this locality, are said to occur only in extinct solfataric vents, and the gold, which is alloyed with silver, would seem to have been brought up from an unknown depth in solution or vapor, and deposited on the rock by the cooling of the solvent. Last Chance Mine, Sulphur Creek, Colusa County, California. May 25, 1889.

11091. **Gold Quartz,** showing free gold. Gold Cañon, Sierra County, three miles above and diagonally opposite Moore's Flat, Nevada County, California. D. R. McKillican. May 28, 1889.

11092. **Lignite.** From a layer three feet thick at a depth of four hundred feet in the shaft of the Elite Consolidated Gold Gravel Mining Company. Shady Run, Placer County, California. J. F. Talbott. May 30, 1889.

11093. **Molybdite** (oxide of molybdenum) with Molybdenite. Cameron, near Bridgeport, Mono County, California. A. S. Kilpatrick. May 30, 1889.

11094. **Chalcophyllite** (hydrous arsenate of copper). St. Day, Cornwall, England. May 31, 1889.

11095. **Scorodite** and **Pharmacosiderite** (hydrous arsenate of iron). Marke Valley, England. May 31, 1889.

11096. **Tyrolite** (hydrous arsenate of copper). Mammoth Mine, Tintic District, Utah. May 31, 1889.

11097. **Erinite** (hydrous arsenate of copper). American Eagle Mine, Tintic District, Utah. May 31, 1889.

11098. **Æschynite** (titano-columbate of cerium, thorium, and lanthanum). Miask, Ural, Siberia. May 31, 1889.

11099. **Utahite** (hydrous sulphate of iron). Tintic District, Utah. May 31, 1889.

11100. **Beryllonite** (phosphate of glucinum). Stoneham, Massachusetts. May 31, 1889.

11101. **Castorite**, a variety of Petalite (silicate of aluminum and lithium). Elba. May 31, 1889.

11102. **Pollucite** (silicate of aluminum and cœsium). Elba. May 31, 1889.

11103. **Phlogopite** (Penfield's new variety). Talc Mine, Edwards, New York. May 31, 1889.

11104. **Peristerite**, a variety of Albite (soda feldspar). Macomb, New York. May 31, 1889.

11105. **Meliphanite** (silico-fluoride of glucinum, calcium, and sodium). Brevig, Norway. May 31, 1889.

11106. **Iolite** (silicate of aluminum, iron, and magnesium) Bamble, Norway. May 31, 1889.

11107. **Polycrase** (columbate of titanium, yttrium, and uranium). Hitteroe, Norway. May 31, 1889.

11108. **Nadorite** (oxychloride of antimony and lead). Constantine, Algeria. May 31, 1889.

11109. **Kjerulfine**, a variety of Wagnerite (fluo-phosphate of magnesium). Bamble, Norway. May 31, 1889.

11110. **Phenacite** (silicate of glucinium). Summit of Mt. Antero, Chaffee County, Colorado. May 31, 1889.

11111. **Gold Quartz**, three hundred and fifty foot level of the Ribbon Rock Mine, three miles northeast from Columbia, Tuolumne County, California. W. O. Bowers. June 18, 1889.

Assay, $600 per ton free gold.

11112. **Gold Quartz**, showing free gold. Two hundred foot level of the "Pet" vein, Crescent Mine, Crescent Mills, Plumas County, California. Capt. J. M. McDonald. June 18, 1889.

11113. **Gold Quartz.** Gold Run Mine, Ætna, Siskiyou County, California. From the Company. June 18, 1889.

11114. **Gold in Calcite.** Alvord Mine, Camp Cady, San Bernardino County, California. W. L. Newman. June 18, 1889.

11115. **Alunogen** (hydrous sulphate of alumina). San Diego, California. A. C. Taylor. June 18, 1889.

11116. **Halotrichite** (hydrous sulphate of alumina and iron). From the old Eureka Tunnel, Eureka Coal and Railroad Company, Livermore, Alameda County, California. D. Guttmann. June 18, 1889.

11117. **Barite** (sulphate of barium). Occurs associated with argentiferous galena, two and one half miles north of Callahan's Ranch, Siskiyou County, California. J. F. O'Gorman. June 18, 1889.

11118. **Antimony Ore**—Stibnite. Lancaster, Los Angeles County, California. James P. Ward. June 18, 1889.

11119. **Tin Ore**—Cassiterite. Wheal Vore Mine, Cornwall, England. Joseph F. Cox. June 18, 1889.

11120. **Magnesite** (carbonate of magnesia). Valley Springs, Calaveras County, California. P. W. Nisley. June 18, 1889.

11121. **Building Stone**—Sandstone. Humboldt Bay, California. American Bridge and Building Company. June 18, 1889.

11122. **Graphite**, in clay. Perris, San Diego County, California. Justice Chipman. June 18, 1889.

11123. **Tourmaline** (boro-silicate of aluminum and magnesium). Eber Flat, Tulare County, California. J. W. Donnelly. June 18, 1889.

11124. **Epidote** (silicate of aluminum, iron, and calcium). Eber Flat, Tulare County, California. J. W. Donnelly. June 18, 1889.

11125. **Ironwood** (olneya tesota). Arizona. Charles R. Wores. June 18, 1889.

11126. **Calcite** (carbonate of calcium), impregnated with petroleum. San Pedro, Los Angeles County, California. Benjamin Hill. June 18, 1889.

11127. **Cement Rock.** Llewellyn, Lane County, Oregon. H. C. Perkins. June 18, 1889.

11128. **Feldspar**—Orthoclase (silicate of aluminum and potassium). Azusa, Los Angeles County, California. W. Adams. June 18, 1889.

11129. **Slate**, suitable for roofing purposes. Fair Play, El Dorado County, California. James A. Scott. June 18, 1889.

11130. **Menaccanite** (titanic iron). Chiquemula District, Department of Santa Rosa, Guatemala. M. San Pedro. June 19, 1889.

11131. **Pyrite** (bisulphide of iron). Chiquemula District, Department of Santa Rosa, Guatemala. M. San Pedro. June 19, 1889.

11132. **Marble**—Polished slab that has been exposed to the weather twenty-five years, and of which there is a large body at Fair Play, El Dorado County, California. James A. Scott. June 20, 1889.

11133. **Silver Ore.** Best Chance Mine, King Creek District, Minaret Buttes, Fresno County, California. Fred. Barcroft. June 20, 1889.

The specimen is taken from a four-foot ledge at a depth of two feet from surface, and contains Silver, Antimony, Galena, Copper, Zinc-blende, and Iron. Locality is one hundred and fifteen miles east from Madera.

11134. **Indian Stone Pestle.** Found on the beach at Scorpion Harbor, Santa Cruz Island, Santa Barbara County, California. W. A. Goodyear. June 20, 1889.

11135. **Indian Stone Ring.** From the rancheria half way up the mountain, on the north side of the Cañada de los Pinos, Santa Cruz Island, Santa Barbara County, California. W. A. Goodyear. June 20, 1889.

11136. **Glaucodot** (sulphide of iron and cobalt). Chile. June 20, 1889.

11137. **Quartz Crystals**—Smoky. Union District, Inyo County, California. S. D. Woodhull. June 20, 1889.

11138. **Building Stone**—Red sandstone. Dressed specimen from Flagstaff, Arizona. E. O. Brady. June 21, 1889.

Used in the construction of the New California Theater Building, Bush Street, San Francisco

11139. **Syenite.** Near Kernville, Kern County, California. A. Blanc. June 21, 1889.

11140. **Rock Specimen**—Slickensides. Quartz in contact with the foot wall, on the nine hundred foot level of the Sierra Buttes Mine, Sierra County, California. Sam Locke. June 21, 1889.

11141. **Chromic Iron.** From a deposit half way between Cloverdale and Geyserville, Sonoma County, California. C. Bowman. June 21, 1889.

11142. **Confederate Currency.** Seven specimens, from $5 to $500 face value. Henry R. Knapp. June 24, 1889.

11143. **Calcite**—var. "Dogtooth Spar," in fine crystals. June 24, 1889.

11144. **Lignite.** Occurs in quantity on Yonkers' Ranch, Del Norte County, California. R. W. Miller. June 30, 1889.

11145. **Diatomaceous Earth,** very rich in marine diatoms. San Pedro, Los Angeles County, California. John S. Marshall. June 30, 1889.

11146. **Iron Ore**—Magnetite (loadstone, or natural magnet). From a large ledge, thirty miles southeast from Daggett, and fifteen miles due south from railroad. San Bernardino County, California. H. W. Lake. June 30, 1889.

11147. **Iron Ore**—Magnetite and Hematite. From a large ledge near No. 11146. H. W. Lake. June 30, 1889.

11148. **Iron Ore.** Magnetite. Hercules Mine, Pit River District, fifteen miles northwest from Redding, Shasta County, California. H. Roseman. June 30, 1889.

11149. **Auriferous Pyrite.** Hercules Mine, Pit River District, Shasta County, California. H. Roseman. June 30, 1889.

11150. **Cobalt Ore**—Erythrite, Smaltite, and Earthy Cobalt; and rich in Argentite (sulphide of silver) with some native silver; a remarkable and interesting combination. O. K. Mine, San Gabriel District, Los Angeles County, California. Wm. McEwen. June 30, 1889.

11151. **Gold,** on quartz crystals. Keystone Mine, Humbug Creek, Siskiyou County, California. D. Ream. June 30, 1889.

11152. **Bismutite** (carbonate of bismuth). Antelope Springs, Deep Spring Valley, Inyo County, California. S. D. Woodhull. July 3, 1889.

11153. **Cardita planicosta.** Cretaceous Fossil. Umpqua River Basin, Oregon. D. C. Stone. July 3, 1889.

11154. **Sapphires** (corundum—alumina). El Dorado Bar, Montana. J. Weyl. July 3, 1889.

11155. **Arca microdonta.** Tertiary Fossil. Yaquina Bay, Oregon. D. C. Stone. June 30, 1889.

11156. **Catlinite**—"Indian Pipestone." From a bed one foot thick at Jasper, Minnesota, twelve miles south of the Indian Reservation at Pipestone, where the old time Indian quarries are situated. Minneapolis Academy of Sciences. July 8, 1889.

11157. **Copper Ore.** Buchanan Mine, Buchanan District, Fresno County, California. B. F. Hook. July 8, 1889.

11158. **Silver Ore.** Waiorongomai Mine, Te Aroha, Auckland, New Zealand. Prof. F. D. Brown. July 10, 1889.

11159. **Silver Ore.** Galena Mine, Te Aroha, Auckland, New Zealand. Prof. F. D. Brown. July 10, 1889.

11160. **Silver Ore.** May Queen Mine, Te Aroha, Auckland, New Zealand. Prof. F. D. Brown. July 10, 1889.

11161. **Gold Quartz.** Diamond Gully Mine, Te Aroha, Auckland, New Zealand. Prof. F. D. Brown. July 10, 1889.

11162. **Gold Quartz**—"Free milling." New Find Mine, Te Aroha, Auckland, New Zealand. Prof. F. D. Brown. July 10, 1889.

11163. **Gold Quartz**—"Refractory." New Find Mine, Te Aroha, Auckland, New Zealand. Prof. F. D. Brown. July 10, 1889.

11164. **Gold Quartz**—"Free Milling." Colonist Mine, Te Aroha, Auckland, New Zealand. Prof. F. D. Brown. July 10, 1889.

11165. **Gold Quartz**—"Refractory." Colonist Mine, Te Aroha, Auckland, New Zealand. Prof. F. D. Brown. July 10, 1889.

11166. **Silver Ore.** Silver King Mine, Te Aroha, Auckland, New Zealand. Prof. F. D. Brown. July 10, 1889.

11167. **Sapphire** (corundum, alumina), two specimens. El Dorado Bar, Missouri River, Montana. Geo. Weitbrecht. July 18, 1889.

11168. **Lepidodendron.** Carboniferous Fossil. Thwaites Mine, three miles east of San Antonio, New Mexico. Geo. H. Thwaites. June 28, 1889.

11169. **Cyprœa contusa.** Fossil shell. Muddy Creek, Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11170. **Cassis textilis.** Fossil shell. Muddy Creek, Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11171. **Voluta allporti.** Fossil shell. Muddy Creek, Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11172. **Ancillaria buccinoides.** Fossil shell. Muddy Creek, Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11173. **Pellicaria sulcata.** Fossil shell. Muddy Creek, Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11174. **Voluta antiscalaris.** Fossil shell. Muddy Creek, Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11175. **Voluta strophodon.** Fossil shell. Muddy Creek, Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11176. **Trigonia howitii.** Fossil shell. Muddy Creek. Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11177. **Cypræa leptoryncha.** Fossil shell. Muddy Creek, Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11178. **Cypræa eximia.** Fossil shell. Muddy Creek. Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11179. **Cucullæa corioensis.** Fossil shell. Muddy Creek, Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11180. **Clypeaster gippslandicus.** Fossil shell. Muddy Creek, Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11181. **Cypræa avellanoides.** Fossil shell. Muddy Creek, Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11182. **Ranella pratii.** Fossil shell. Muddy Creek, Hamilton, Victoria, Australia. Dr. Thos Porter. July 22, 1889.

11183. **Fossil Shark's Tooth.** Port Arlington, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11184. **Cerithium.** Fossil shell. Muddy Creek, Hamilton, Victoria, Australia. Dr. Thos. Porter. July 22, 1889.

11185. **Water-worn Bowlder** of very remarkable shape, supposed by the finder to have been an ancient Indian anchor, probably from the fact of its being perforated. It was found in 1866, sixty feet below the surface in the pay gravel of an old river channel. When found it had a polished surface, but was built into a chimney, by which the polish was destroyed, and at the same time one end was broken off. Another somewhat similar in form was found near it. Euchre Bar, Placer County, California. Edward L. Ford. July 23, 1889.

11186. **Manganese Ore**—Pyrolusite, of good quality. San Bernardino, California. E. C. Seymour. July 23, 1889.

11187. **Bismuth**—Native. Vicinity of Salt Lake City, Utah. W. H. Schamp. July 23, 1889.

11188. **Coal**—Lignite. From an extensive bed at Hyampum, on the South Fork of the Trinity River, at the mouth of Hay Forks, Trinity County, California. W. C. Chapin. July 23, 1889.

Analysis, S. M. B.:

Fixed carbon	58.00
Volatile hydrocarbon and water	30.00
Ash	12.00
Total	100.00

11189. **Silver Ore,** with gold. Port Royal Mine, Clark District, Graham County, Arizona. J. W. Wooding. July 27, 1889.

11190. **Opal,** in matrix; cut and polished. Honduras. J. Weyl. July 27, 1889.

11191. **Quartz,** with Chalcopyrite often mistaken for gold. Mount Hamilton, Santa Clara County, California. F. M. Roby. July 27, 1889.

11192. **Natrolite** (hydrous silicate of aluminum and sodium), and **Stilbite** (hydrous silicate of aluminum and calcium). San Juan County, Colorado. F. E. Monteverde. July 27, 1889.

11193. **Silver Ore**—"Lime carbonate." Little Walter Mine, Horseshoe Gulch, Park County, Colorado. Noel May.

11194. **Silver Ore.** Louetta Mine, Iowa Gulch, Colorado. Noel May.

11195. **Silver Ore** (argentiferous galena). Robinson Mine, Kokone, Park County, Colorado. Noel May.

11196. **Silver Ore** (argentiferous galena). Crusader Mine, Horseshoe Gulch, Park County, Colorado. Noel May.

11197. **Copper Ore.** Boundary line of Colorado and New Mexico. Seth Cook.

11198. **Wall Rock**—Schalstein, resembling Serpentine. Hanging wall of No. 9 Tunnel, seven thousand feet from entrance. Sierra Buttes Mine, Sierra County, California.

11199. **Wall Rock**—Altered Diabase, with excess of lime and magnesia. Foot wall of No. 9 Tunnel, seven thousand feet from entrance. Sierra Buttes Mine, Sierra County, California.

11200. **Coal**—Bituminous. Ratoon Mountains, New Mexico. S. Heydenfeldt, Jr.

11201. **Coal.** Eastport, Coos Bay, Oregon. J. Henderson, Jr.

11202. **Coal.** Seattle, Washington.

11203. **Coal** and Coke made from it. Wyoming Mine, Wyoming Territory. D. L. Randolph.

11204. **Coal.** Talbot Mine, Seattle, Washington. J. Henderson, Jr.

11205. **Coal.** Bellingham Bay, Washington. J. Henderson, Jr.

11206. **Coal.** Newport, Coos Bay, Oregon. J. Henderson, Jr.

11207. **Barcenite** (antimonate of mercury), resulting from the alteration of Livingstonite. Huitzuco, Guerrero, Mexico. J. W. Maxwell. August 2, 1889.

11208. **Quicksilver Ore**—Cinnabar. Cary Mine, Pine Flat, Sonoma County, California. C. A. Grimmer. August 3, 1889.

11209. **Sedimentary Deposit,** principally angular quartz with a little alumina. Said to occur in large quantity. Montezuma Hills, six miles from Rio Vista, Solano County, California. J. T. Wallace. August 3, 1889.

11210. **Calamites approximatus.** Carboniferous Fossil. Morris, Grundy County, Illinois. August 5, 1889.

11211. **Stigmaria** Sp? Carboniferous Fossil. Morris, Grundy County, Illinois. August 5, 1889.

11212. **Stibnite** (sulphide of antimony), in fine crystals. Range east of Hollister, San Benito County, California. Charles Bronson. August 8, 1889.

11213. **Calcite**—Iceland Spar. South Riverside, San Bernardino County, California. O. A. Smith. August 8, 1889.

11214. **Wall Rock**—Slate. Foot wall of pay shoot, two hundred and fifty feet from surface, North Star Mine, Sutter Creek, Amador County, California. From the Company. June, 1888.

11215. **Linarite** (cupreous sulphate of lead), in very fine crystals; with Cerussite and Bindheimite. Crapo Mine, Cerro Gordo, Inyo County, California. William Crapo. August 13, 1889.

11216. **Auriferous and Argentiferous Vein Matter,** very rich in free gold, and also rich in silver. Taylor Mine, Cleaveland District, Death Valley, Inyo County, California. R. B. Taylor. August 13, 1889.

11217. **Bituminous Earth**, yielding, by distillation, inflammable gas and oil. San Rafael, Marin County, California. James H. Wilkins. August 13, 1889.
Might be utilized for the manufacture of gas.

11218. **Pectolite** (hydrous silicate of calcium and sodium). Tehama County, California. J. A. Heslewood. August 13, 1889.

11219. **Iron Ore**—Magnetite (Loadstone or Natural Magnet). Bull of the Woods Mine, King's Creek District, Fresno County, California. R. Reynolds. August 16, 1889.
Ore body exposed about one mile long, one thousand five hundred feet high, and four hundred feet thick.

11220. **Basalt**—Porphyritic, rich in olivine. King's Creek District, Fresno County, California. R. Reynolds. August 16, 1889.

11221. **Thinolite** (carbonate of calcium), which has been formed on a branch of a tree. Mono Lake, Mono County, California. James G. Thompson. August 16, 1889.

11222. **Asphaltum.** From a deposit half a mile east of Carpinteria, Santa Barbara County, California. P. C. Higgins. August 19, 1889.

11223. **Asphaltum.** Wiley Cañon, Los Angeles County, California. August 19, 1889.

11224. **Asphaltum** (refined). Petrolia, Los Angeles County, California. August 19, 1889.

11225. **Bituminous Shale.** Elsinore, San Diego County, California. Dolbeer & Hoff. August 19, 1889.

Analysis:

Water	2.65
Volatile hydrocarbons, etc.	44.25
Fixed carbon	7.40
Ash	45.70
Total	100.00
Sulphur	3.43

11226. **Clay.** From middle of coal vein. Elsinore, San Diego County, California. Dolbeer & Hoff. August 19, 1889.

11227. **Clay.** Collier & Cheney's bank. Elsinore, San Diego County, California. August 19, 1889.

11228. **Fossils,** which occur at the oil wells. Ojai Valley, Ventura County, California. August 19, 1889.

11229. **Perlite**—Vitreous, a variety of Obsidian. San Fernando Mountains, three to four miles southeast of Santa Paula, Ventura County, California. W. A. Goodyear. August 19, 1889.

11230. **Building Stone**—Sandstone. Locally used to some extent. Hills near Santa Barbara, Santa Barbara County, California. August 19, 1889.

11231. **Building Stone**—Sandstone. Sycamore Cañon, three miles from Santa Barbara, Santa Barbara County, California. August 19, 1889.

11232. **Building Stone**—Trachyte. Used for steps to the Court House, and in other buildings in San Luis Obispo. Lee's Ranch, four miles northwest from San Luis Obispo, California. Charles Lee. August 19, 1889.

11233. **Bituminous Rock.** Quarry, seven miles southeast of San Luis Obispo, San Luis Obispo County, California. Adams & Nicholls. August 19, 1889.

11234. **Coal.** Dolbeer & Hoff's Mine, Elsinore, San Diego County, California. August 19, 1889.

Analysis, S. M. B.:

Water	16.25
Volatile hydrocarbons	43.75
Fixed carbon	28.15
Ash	11.85
Total	100.00

11235. **Gold Quartz.** Tom Paine Mine, West Point District, Calaveras County, California. G. A. Billings. August 19, 1889.

11236. **Yew,** Taxus brevifolia. California wood, cross section. August 19, 1889.

11237. **Auriferous Vein Matter**—Quartz, sand, and clay, apparently resulting from the decomposition of granulite (No. 11238), which forms the inclosing rock. Near Volcano, Amador County, California. C. B. Bingham. August 26, 1889.

11238. **Granulite**—Feldspar and Quartz, with a little mica, intermediate between granite and gneiss. Near Volcano, Amador County, California. C. B. Bingham. August 26, 1889.

11239. **Anamesite**—A variety of Basalt. Fresno, California. W. T. Armstrong. August 26, 1889.

11240. **Fiorite**—opal sinter. From the great geyser known as "Old Faithful," in the Yellowstone Park, Montana. H. L. Hosmer. August 26, 1889.

11241. **Silver Ore.** Governor Mine, Lake Valley District, Sierra County, New Mexico. N. S. Finch. August 26, 1889.

11242. **Fossil Echinoderm,** Ananchytes. Cretaceous Fossil. England. August 26, 1889.

11243. **Fossil Bone.** Vicinity of San Luis Obispo, San Luis Obispo County, California. J. M. Curtis. August 30, 1889.

11244. **Fossil**—Carboniferous. Sandstone cast of a Palm. Coal Measures, Ohio. D. S. Marvin. August 30, 1889.

11245. **Fossil Coral**—Carboniferous. White Pine, Nevada. August 30, 1889.

11246. **Gold Quartz.** Foster Mine, Big Slide, Fraser River, British Columbia. O. Newhouse. August 31, 1889.
Ledge two feet thick in a granite formation.

11247. **Antimony Ore**—Stibnite. Near Hot Springs, between Kernville and Havilah, Kern County, California. A. Blanc. August 31, 1889.

11248. **Antimony.**—Native. Near Hot Springs, between Kernville and Havilah, Kern County, California. A. Blanc. August 31, 1889.

11249. **Coquimbite** (hydrous sulphate of iron), in a silicious shale. Near Georgetown, El Dorado County, California. Alfred W. Dana. August 31, 1889.

11250. **Columbite** (columbate of iron). Kings Creek District, Fresno County, California. R. Reynolds. August 31, 1889.

11251. **Gold Quartz.** From "footwall ledge," Superior Mine, near Placerville, El Dorado County, California. George H. Goddard. September 16, 1889.

11252. **Gold Quartz.** From hanging wall side of ledge, Superior Mine, near Placerville, El Dorado County, California. George H. Goddard. September 16, 1889.

Specimens 11251 and 11252 taken at a depth of 160 feet. Ledge at this point is 8 feet wide, dip 75 degrees east, length of ore shoot 300 feet; wall rocks, black slate; assays ranging from $21 to $60 per ton.

11253. **Gold Quartz.** From face of tunnel, 803 feet from entrance, in the "porphyry ledge" (new ore body) of the Superior Mine, near Placerville, El Dorado County, California. George H. Goddard. September 16, 1889.

11254. **Gold Quartz.** Taken from tunnel at a point 650 feet from entrance. Superior Mine, near Placerville, El Dorado County, California. George H. Goddard. September 16, 1889.

Assays $21 per ton.

11255. **Auriferous Pyrite,** in black slate at face of tunnel. Superior Mine, near Placerville, El Dorado County, California. George H. Goddard. September 16, 1889.

Ledge, 2½ feet wide; hanging wall, porphyry; foot wall, slate.

11256. **Hematite**—var. "Specular Iron" (sesquioxide of iron). Pseudomorph after calcite. From near the quarry of the Inyo Marble Company, Keeler, Inyo County, California. M. Wertheimer. September 18, 1889.

11257. **Building Stone.** Coarse sandstone from near the mouth of Pescadero Creek, San Mateo County, California. John McCormick. September 18, 1889.

11258. **Quartz, with included Rutile.** Two specimens cut and polished. Mokelumne Hill, Calaveras County, California. Sam Sonnenfeld. September 18, 1889.

11259. **Manganese Ore**—Pyrolusite. Said to be in large quantity and easy of access. Westport, Mendocino County, California. R. H. Sinton. September 18, 1889.

11260. **Zinc Ore**—Sphalerite. North Cow Creek, about thirty miles east of Redding, Shasta County, California. S. S. Sweet. September 23, 1889.

11261. **Vanadinite** (chloro-vanadate of lead), brown variety. Big Bug District, Yavapai County, Arizona. Professor William P. Blake. September 23, 1889.

11262. **Glauberite** (sulphate of calcium and sodium). Verde River, Yavapai County, Arizona. Professor William P. Blake. September 23, 1889.

11263. **Copper**—Native, with Cuprite. Copper Queen Mine, Bisbee, Arizona. D. L. Mosgrove. September 23, 1889.

11264. **Silver**—Native, on Kaolin, colored with salts of copper. Tombstone, Arizona. D. L. Mosgrove. September 23, 1889.

11265. **Melanterite** (hydrous sulphate of iron). Georgetown, El Dorado County, California. Alfred W. Dana. September 23, 1889.

11266. **Azurite** (hydrous carbonate of copper); very large and handsome crystals. Copper Queen Mine, Bisbee, Arizona. D. L. Mosgrove. September 23, 1889.

11267. **Copper**—Native, with Chalcocite. Copper Queen Mine, Bisbee, Arizona. D. L. Mosgrove. October 2, 1889.

11268. **Coal**—Lignite of good quality. Sec. 80, T. 14 N., R. west, North Deep Creek, Washington. Charles A. Clark. October 2, 1889.

ANALYSIS, S. M. B.

Volatile hydrocarbons and water	55.50
Fixed carbon	40.75
Ash	3.75
	100.00

11269. **Stalactite.** Fossil Creek, Yavapai County, Arizona. M. Braverman. October 2, 1889.

11270. **Tufa**—Calcareous (carbonate of calcium). Fossil Creek, Yavapai County, Arizona. M. Braverman. October 2, 1889.

11271. **Mechanical Analysis of Kaolin.** From San Bernardino County, near Daggett Station (see No. 5544). Portion purified by washing, 85.45 per cent.

11272. **Mechanical Analysis of Kaolin** (No. 5544). Coarser impurities, 7.21 per cent.

11273. **Mechanical Analysis of Kaolin** (No. 5544). Finer impurities, 7.34 per cent.

11274. **Gilsonite,** a variety of asphaltum, with native white paraffine. Utah. William D. Johnston. October 2, 1889.

11275. **Gold Quartz.** Pittsburg Mine, Nevada City, Nevada County, California. From the Company. October 3, 1889.

11276. **Topaz** (silicate of aluminum). Colorado. F. E. Monteverde. October 3, 1889.

11277. **Iron Ore**—Magnetite. Townships 28 and 31 N., Range 8 to 10 W., M. D. M., Tehama County, California. J. A. Heslewood. October 3, 1889.

11278. **Iron Ore**—Magnetite and Hematite. Del Norte County, California. Charles F. Goodrich. October 3, 1889.

11279. **Silver Ore**—Argentiferous Galena, with Stibnite. Mountain Gem Mine, Plumas County, California. W. L. Sharp. October 3, 1889.

11280. **Silver Ore**—Argentiferous Galena, with gold, copper, and antimony. Fillbrook Mine, Butte County, California. W. L. Sharp. October 3, 1889.

11281. **Coal.** Near Portage Bay, Alaska. October 8, 1889.

ANALYSIS, S. M. B.

Volatile hydrocarbons and water	40.00
Fixed carbon (coke)	52.00
Ash	7.00
	99.00

Coke, firm and compact.

11282. **Asphaltum.** From near the line of Sonoma and Mendocino Counties, California. E. T. Hale. October 8, 1889.

11283. **Graphite,** in Micaceous Schist. Placerito Cañon, San Fernando Mountains, Newhall, Los Angeles County, California. October 8, 1889.

11284. **Bituminous Shale and Sandstone.** Cañon three miles south of Newhall, foot of San Fernando Mountains, Los Angeles County, California. October 8, 1889.

11285. **Aragonite** (carbonate of calcium). From the limestone belt in Little Castaca Cañon, Los Angeles County, California. October 8, 1889.

11286. **Gold Quartz.** Star of the West Mine, Bear Cañon, Los Angeles County, California. October 8, 1889.

11287. **Wall Rock** of No. 11286. October 8, 1889.

11288. **Gold Quartz,** with free gold, and arsenical pyrite (mispickel). May Blossom Mine, Last Chance District, Placer County, California. Dr. M. Schnabel. October 8, 1889.

11289. **Wall Rock**—Quartzite. May Blossom Mine, Placer County, California. October 8, 1889.

11290. **Obsidian**—Variegated; large specimen found on the mountain west of Trinity River, and probably carried there years ago from the volcanic belt east, by Indians, for use in making arrow points, spear heads, etc., as there are no volcanic rocks where it was found. Trinity Center, Trinity County, California. W. P. Miller. October 8, 1889.

11291. **Quartz Crystals**—Group of. Remarkable for its appearance of having been worn or flattened either by water or the movement of the walls of the vein. Found in a large "vug" or cavity on the second level, 265 feet below the surface, in the Gold Bank Mine, Butte County, California. H. P. Stow. October 10, 1889.

11292. **Auriferous Vein Matter**—Pyrite. Three feet thick on the foot wall, at a depth of 265 feet; second level of the Gold Bank Mine, Butte County, California. H. P. Stow. October 10, 1889.

11293. **Auriferous Vein Matter**—Pyrite. Blazing Star Mine, West Point, Calaveras County, California. W. H. V. Cronise. October 10, 1889.

11294. **Gold Quartz** (oxidized specimens). Foster group of mines, Bully Choop, Trinity County, California. W. H. V. Cronise. October 10, 1889.

11295. **Auriferous Vein Matter**—Pyrite. Foster group of mines, Bully Choop, Trinity County, California. W. H. V. Cronise. October 10, 1889.

11296. **Silver Ore.** Tioga District, Tuolumne County, California. Tioga District Mining Company. October 10, 1889.

11297. **Silver Ore**—Tetrahedrite, Bornite, Sphalerite, and Galena; carrying silver. Jerusha Mine, near Helena, Montana. W. H. V. Cronise. October 10, 1889.

11298. **Dendrites** of oxide of Manganese on indurated volcanic ash. Volcano, Amador County, California. W. Q. Mason. October 11, 1889.

11299. **Calcite** (carbonate of calcium); two varieties. Volcano, Amador County, California. W. Q. Mason. October 11, 1889.

11300. **Gold Quartz.** Excelsior Mine, Pine Grove, Amador County, California. W. Q. Mason. October 11, 1889.

11301. **Gold Quartz.** Colorado Mine, Volcano, Amador County, California. W. Q. Mason. October 11, 1889.

11302. **Gold Quartz.** San Joaquin Mine, Pine Grove, Amador County, California. W. Q. Mason. October 11, 1889.

11303. **Gold Quartz.** Griesbach Mine, Pioneer District, Amador County, California. W. Q. Mason. October 11, 1889.

11304. **Gold Quartz.** Modoc Mine, Pioneer District, Amador County, California. W. Q. Mason. October 11, 1889.

11305. **Silver Ore,** with Antimony and Pyrites. Arizona Mine, Humboldt County, Nevada. M. Allison Wheeler. October 11, 1889.

11306. **Limestone Breccia.** From near the Mina Prieta, Sonora, Mexico. H. Mayer. October 12, 1889.

11307. **Granite.** Three varieties, light, dark, and medium; cut and polished specimens. Penryn, Placer County, California. J. H. Neff. October 12, 1889.

11308. **Conglomerate.** From an artesian well, at a depth of 707 feet, Chino Ranch, center of Chino Valley, San Bernardino County, California. Richard Gird. October 14, 1889.

11309. **Talc,** with Pyrites. Oak Bar, Siskiyou County, California. H. J. Barton. October 14, 1889.

11310. **Quartzite,** composed of small crystals of quartz cemented together by clay, and colored green by iron. Northern Nevada, near the Idaho line. William Spencer. October 14, 1889.

11311. **Sphærulite,** a variety of Obsidian. Northern Nevada, near the Idaho line. William Spencer. October 14, 1889.

11312. **Serpentine**—Altered, with veins of agate and chalcedony, and crystals of magnetite. When polished is very ornamental in appearance. Northern Nevada, near the Idaho line. William Spencer. October 14, 1889.

11313. **Core of Diamond Drill.** From Well No. 19 of the Pico Oil Company, Pico Cañon, which is said to be the first oil well in which the diamond drill was employed in California. Newhall, Los Angeles County, California. October 14, 1889.

11314. **Fossil Shells** in sections of diamond drill core. From Well No. 19 of the Pico Oil Company, Pico Cañon, Los Angeles County, California. October 14, 1889.

Specimens found at a depth of 390 feet.

11315. **Calcareous Tufa,** containing leaves, etc. From a deposit three feet thick, now forming in Silver Mountain District, Little Castaca Cañon, near Newhall, Los Angeles County, California. October 14, 1889.

11316. **Silver—Native**—"wire silver." From the vicinity of Kootenai Lake, British Columbia. October 15, 1889.

11317. **Asbestus** (a variety of amphibole and pyroxene) on quartz. Great West Mine, Little Castaca Cañon, near Newhall, Los Angeles County, California. October 16, 1889.

11318. **Silver Ore.** Silver Mountain Mine, Silver Mountain District, Castaca Cañon, near Newhall, Los Angeles County, California. October 16, 1889.

11319. **Wall Rock**—Partly decomposed calcareous diorite, inclosing rock of No. 11318. October 16, 1889.

11320. **Copper Ore**—Chrysocolla and Cuprite. Parkfield, Monterey County, California. F. Stone. October 16, 1889.

11321. **Copper Ore**—Chalcocite and Malachite. Prince of Wales Island, Alaska. Dr. E. Von Hasslocher. October 24, 1889.

11322. **Fluorite** (fluoride of calcuim), with Chrysocolla. San Bernardino, California. James H. Boyd. October 28, 1889.

11323. **Arrowheads.** Several specimens of various forms and materials made by the Pah Ute Indians in the vicinity of Austin, Lander County, Nevada. J. P. Smith. October 31, 1889.

11324. **Gneiss,** with Garnets. Merced, California. John W. Bost. October 31, 1889.

11325. **Coal.** Cooks Inlet, Alaska. W. H. Hall. October 31, 1889.

ANALYSIS, S. M. B.

Volatile hydrocarbons and water	57.50
Fixed carbon	40.50
Ash	2.00
	100.00

Soft and friable; cokes a little.

11326. **Gypsum** (hydrous sulphate of calcium). From a ledge eight to ten feet thick, and about 18 miles from the railroad, Ojai Valley, Ventura County, California. F S. Hall. November 5, 1889.

ANALYSIS, S. M. B.

Sulphate of lime	75.22
Magnesia	1.15
Soda	1.10
Silica (sand)	.76
Alumina and iron	.34
Water	21.29
	99.86

11327. **Wall Rock.** Kentuck Mine, Patterson District, Mono County, California. November 5, 1889.

11328. **Gold.** Coarse placer gold of peculiar and uncommon shape. Palmetto, Esmeralda County, Nevada. S. D. Woodhull. November 5, 1889.

11329. **Talc** (hydrous silicate of magnesium), with Chrysotile. Oak Bar, Siskiyou County, California. H. T. Barton. November 11, 1889.

11330. **Gold**—in limonite, on quartz. Little Gem Mine, Mount Raymond District, Fresno County, California. J. E. Hutchinson. November 11, 1889.

11331. **Muscovite** (silicate of aluminum and potassium); group of crystals found associated with tin ore. Harney Peak, South Dakota. R. D. Atkins. November 11, 1889.

11332. **Chromic Iron.** From near the Fifteen-Mile House, on road from San José to Gilroy, Santa Clara County, California. November 11, 1889.

11333. **Copper Ore**—Chrysocolla, with a little Malachite. From near the Fifteen-Mile House, on road from San José to Gilroy, Santa Clara County, California. November 11, 1889.

11334. **Serpentine and Picrolite, with Graphite.** Stoddart's Mills, Oro Grande, San Bernardino County, California. November 15, 1889.

11335. **Iron Ore**—Magnetite in Serpentine. Stoddart's Mills, Oro Grande, San Bernardino County, California. November 15, 1889.

11336. **Silver Ore**—Argentiferous Galena and Zinc Blende. Harrison Lode, four miles from Oro Grande, San Bernardino County, California. November 15, 1889.

11337. **Copper Ore.** Cape Horn Mine, Black Hawk District, Ord Mountain, San Bernardino County, California. November 15, 1889.

11338. **Silver Ore.** Lucky Tom Mine, Galena Camp, 12 miles west from Victor, San Bernardino County, California. November 15, 1889.

11339. **Silver Ore.** Morongo Mine, Black Hawk District, Ord Mountain, San Bernardino County, California. November 15, 1889.

11340. **Silver Ore.** Commercial Mine, Galena Camp, 12 miles west from Victor, San Bernardino County, California. November 15, 1889.

11341. **Wall Rocks**—Quartzite, Gneissoid Schist, and Limestone. Commercial Mine, Galena Camp, San Bernardino County, California. November 15, 1889.

11342. **Silver Ore.** Rio Vista Mine, Ord District, San Bernardino County, California. November 15, 1889.

11343. **Marble**—Gray; two polished slabs. From the California Marble and Building Stone Company, Colton, San Bernardino County, California. November 15, 1889.

11344. **Silver Ore.** Clinker Mine No. 2, West Camp, 15 miles S.W. from Victor, San Bernardino County, California. November 15, 1889.

11345. **Silver Ore.** Pontiac Mine, North Mountain, 15 miles N.W. from Victor, San Bernardino County, California. November 15, 1889.

11346. **Gold Quartz.** Francis Mine, Mariposa County, California. H. E. Stockwell. November 15, 1889.

11347. **Silver Ore.** Springer Mine, North Mountain, 15 miles N.W. from Victor, San Bernardino County, California. November 15, 1889.

11348. **Galena** (sulphide of lead), argentiferous. Star Mine, Mount Raymond District, Fresno County, California. H. E. Stockwell. November 15, 1889.

11349. **Marble.** Hill & Brady's Quarry, 12 miles from Oro Grande, San Bernardino County, California. November 15, 1889.

11350. **Aragonite** (carbonate of calcium) "Onyx Marble." Hill & Brady's Quarry, 12 miles from Oro Grande, San Bernardino County, California. November 15, 1889.

11351. **Calcite** (carbonate of calcium), with Dendrites of Oxide of Manganese. "Country rock" at West Camp Mining District, 15 miles S.W. from Victor, San Bernardino County, California. November 15, 1889.

11352. **Silver Ore**—Argentiferous Galena. Old Woman's Mountain, 30 miles from Oro Grande, San Bernardino County, California. November 15, 1889.

11353. **Gold Quartz.** Sidewinder Mine, 12 miles from Oro Grande, San Bernardino County, California. November 15, 1889.

11354. **Gold Quartz.** Golden Gate Mine, Sonora, Tuolumne County, California. H. E. Stockwell. November 15, 1889.

11355. **Silver Ore.** Lookout Mine, Lava Beds, San Bernardino County, California. November 15, 1889.

11356. **Gold Quartz,** rich in free gold. New Albany Mine, Tuolumne County, California. H. E. Stockwell. November 15, 1889.

11357. **Silver Ore.** Garland Mine, Cook Cañon, Morongo District, San Bernardino County, California. November 15, 1889.

11358. **Silver Ore.** Clinker Mine, West Camp, San Bernardino County, California. November 15, 1889.

11359. **Quicksilver Ore.** Mercury Mine, Pine Flat, Sonoma County, California. C. A. Grimmer. November 15, 1889.

11360. **Silver Ore.** Sparkhula Mine, Central Camp, San Bernardino County, California. November 15, 1889.

11361. **Silver Ore.** General Mine, West Camp, San Bernardino County, California. November 15, 1889.

11362. **Granite.** St. John's Quarry, near Victor, San Bernardino County, California. November 19, 1889.

11363. **Granite.** Shearer Quarry, near Victor, San Bernardino County, California. November 19, 1889.

This specimen and No. 11362 are true granite, consisting of quartz, feldspar, and mica, without the hornblende which is so abundant in the common granites of California.

11364. **Quartzite.** Kaolin Mountain, 12 miles N. E. from Daggett, San Bernardino County, California. November 19, 1889.

This stone is said to resist fire, and to have been successfully employed in the construction of furnaces.

11365. **Jasper** (argentiferous). Waterloo Mine, Calico, San Bernardino County, California. November 19, 1889.

Worked as a silver ore.

11366. **Silver Ore.** From a new ore body recently found in the Waterloo Mine, Calico, San Bernardino County, California. November 19, 1889.

11367. **Silver Ore.** Occidental Mine, Calico, San Bernardino County, California. November 19, 1889.

11368. **Silver Ore.** Silver Monument Mine, Calico, San Bernardino County, California. November 19, 1889.

11369. **Wall Rock**—Altered Trachyte. Oriental Mine No. 2, Calico, San Bernardino County, California. November 19, 1889.

11370. **Silver Ore.** Balm of Gilead Mine, near Old Woman's Springs, San Bernardino County, California. November 19, 1889.

11371. **Silver Ore.** 150-foot level of the Midnight Mine, 7 miles south from Daggett, San Bernardino County, California. November 19, 1889.

11372. **Cinnabar** (sulphide of mercury). Elmo Mine, Pine Flat, Sonoma County, California. C. A. Grimmer. November 19, 1889.

11373. **Gold Coin.** Quarter ducat of the Archbishop of Saltzburg, Austria. Coined in 1688. C. F. Von Petersdorff. November 19, 1889.

11374. **Manganese Ore**—Pyrolusite. Los Burros, Monterey County, California. W. D. Cruikshank. November 25, 1889.

11375. **Gold Quartz,** showing free gold. Wide West Mine, Okanagon District, British Columbia. J. Holden. November 28, 1889.

11376. **Gold,** in crystals, on crystallized quartz. Flowery North Mine, near Lovelock, Butte County, California. November 30, 1889.

11377. **Graphite.** Verdugo Cañon, Los Angeles County, California. December 2, 1889.

11378. **Diatomaceous Earth.** Point Dumas, Los Angeles County, California. December 2, 1889.

11379. **Limestone.** Lyman's Quarry, Oro Grande, San Bernardino County, California. December 2, 1889.
Makes excellent lime.

11380. **Building Stone.** Lordsburg, Los Angeles County, California. December 2, 1889.
Said to resist heat and pressure well.

11381. **Cummingtonite** (amphibole and rhodonite). Daggett, San Bernardino County, California. December 2, 1889.

11382. **Asbestus** (silicate of magnesium, iron, calcium, and aluminum). Barstow, San Bernardino County, California. December 2, 1889.

11383. **Lead Ore**—Cerrussite and Galena. Carbonate Mine, Oro Grande, San Bernardino County, California. December 2, 1889.

11384. **Silver Ore.** Blue Jacket Mine, Oro Grande, San Bernardino County, California. December 2, 1889.

11385. **Gold Quartz.** Oro Grande Mine, Oro Grande, San Bernardino County, California. December 2, 1889.

11386. **Gold Quartz.** Oro Fino Mine, Oro Grande, San Bernardino County, California. December 2, 1889.

11387. **Building Stone**—Syenitic Granite. Temecula Cañon, 3 miles S.W. from Temecula Station, San Diego County, California. December 2, 1889.

11388. **Garnet**—Almandite (silicate of aluminum, iron, calcium, etc.), with crystallized Magnetite. Hot Springs, between Kernville and Havilah, Kern County, California. A. Blanc. December 4, 1889.

11389. **Fuchsite** (a variety of Muscovite), Chrome Mica. Arch Beach, Orange County, California. H. S. Goff. December 4, 1889.

11390. **Clay** (ferruginous). Sec. 21, T. 5 S., R. 5 W., S. B. M., about two miles from Terra Cotta, San Diego County, California. December 4, 1889.

Used for making sewer pipe, etc., for which purpose it is shipped to potteries in Los Angeles.

11391. **Realgar** (sulphide of arsenic), in Calcite. Northwest corner of Trinity County, California. J. S. Thompson. December 4, 1889.

11392. **Tin Ore**—Stream tin. Potato Gulch, South Dakota. Joseph Swett. December 4, 1889.

11393. **Wulfenite** (molybdate of lead). Morning Star Mine, Lava Beds, San Bernardino County, California. December 6, 1889.

11394. **Mimetite** (arsenate and chloride of lead). Morning Star Mine, Lava Beds, San Bernardino County, California. December 6, 1889.

11395. **Asbestus** (silicate of magnesium, iron, calcium, and aluminum). Orange River, South Africa. Robert H. Jones. December 6, 1889.

11396. **Pottery.** Turbigo, Cauca, Republic of Colombia. D. T. Hughes. December 11, 1889.

Nine specimens found in the graves of the people who inhabited the Cauca Valley prior to the conquest of the country by the Spaniards. These ancient graves are usually found in groups on elevated places; they are much sought after for the sake of the gold ornaments frequently found in them, and have now become scarce.

11397. **Pottery.** Three specimens (see No. 11396). Labano, Cauca, Republic of Colombia. D. T. Hughes. December 11, 1889.

11398. **Silver Ore**—Argentiferous Galena. Morning Star Mine, Lava Beds District, San Bernardino County, California. December 12, 1889.

11399. **Aragonite** (carbonate of calcium). Formed on the inside of a drain box on the 1,000-foot level of the Overman Mine, Gold Hill, Nevada. R. W. Collins. December 12, 1889.

11400. **Silver Ore.** Mammoth Mine, Lava Beds District, San Bernardino County, California. December 12, 1889.

11401. **Silver Ore.** Tip Top Mine, Lava Beds District, San Bernardino County, California. December 12, 1889.

11402. **Silver Ore.** Everett Mine, Lava Bed Mountain, San Bernardino County, California. December 12, 1889.

11403. **Silver Ore.** Pequot Mine, Lava Bed Mountain, San Bernardino County, California. December 12, 1889.

11404. **Gold Quartz.** Golden Gate Mine, near Sonora, Tuolumne County, California. J. F. O'Gorman. December 12, 1889.

11405. **Gold Quartz.** Duncan Mine, one mile S.E. from Hornitos, Mariposa County, California. Jerome B. Brown. December 12, 1889.

11406. **Silicified Wood.** Arizona. J. Z. Davis. December 12, 1889.

11407. **Perlite**—A variety of Obsidian. San Bernardino, California. N. Davenport. December 12, 1889.

11408. **Pandermite** (borate of lime). Seven miles from Daggett, San Bernardino County, California. December 12, 1889.

11409. **Magnesite** (carbonate of magnesia). Lake & Owen's Iron Mine, 30 miles S.E. from Daggett, San Bernardino County, California. December 12, 1889.

11410. **Calcite,** worn by drifting sand. Daggett, San Bernardino County, California. December 12, 1889.

11411. **Nodules**—Calcareous. Found near the Pandermite, No. 11408. Calico, San Bernardino County, California. December 12, 1889.

11412. **Building Stone**—Fine grained Gneissoid granite. Philadelphia, Pennsylvania. J. Z. Davis. December 12, 1889.

11413. **Building Stone** (two specimens)—Pegmatite granite. Philadelphia, Pennsylvania. J. Z. Davis. December 12, 1889.

11414. **Building Stone** (two specimens)—Schistose protogine granite. Philadelphia, Pennsylvania. J. Z. Davis. December 12, 1889.

11415. **Building Stone**—Biotite granite, with muscovite and garnets. Philadelphia, Pennsylvania. J. Z. Davis. December 12, 1889.

11416. **Building Stone**—Coarse granite. Philadelphia, Pennsylvania. J. Z. Davis. December 12, 1889.

11417. **Building Stone**—Schorlaceous granite. Philadelphia, Pennsylvania. J. Z. Davis, December 12, 1889.

11418. **Malachite**—Polished. Bisbee, Arizona. John Curry. December 12, 1889.

11419. **Gold,** in Ferruginous Jasper. Alvord Mine, Camp Cady, San Bernardino County, California. December 14, 1889.

11420. **Auriferous Vein Matter**—Quartz and oxide of iron, showing free gold. Alvord Mine, Camp Cady, San Bernardino County, California. December 14, 1889.

11421. **Gold,** in Calcite. Alvord Mine, Camp Cady, San Bernardino County, California. December 14, 1889.

11422. **Marble**—Dark colored; polished slab. Colton, San Bernardino County, California. California Marble and Building Stone Company. December 24, 1889.

11423. **Marble**—Light colored; two polished slabs. Colton, San Bernardino County, California. California Marble and Building Stone Company. December 24, 1889.

11424. **Aragonite**; polished slab. Colton, San Bernardino County, California. California Marble and Building Stone Company. December 24, 1889.
Known in the trade as "Onyx Marble."

11425. **Terra Cotta Medallion.** Finely executed female head. California manufacture. Gladding, McBean & Co. December 24, 1889.

11426. **Cinnabar** (sulphide of mercury); very rich, containing about 70 per cent of quicksilver. Found 14 miles from Prescott, Arizona. G. K. W. McNary. December 31, 1889.

11427. **Hematite** (sesquioxide of iron), in nodules. Susanville, Lassen County, California. L. L. Frost. December 31, 1889.

11428. **Copper Ore,** high grade. Pope Valley, Napa County, California. W. A. Barnett. December 31, 1889.

11429. **Steatite.** Santa Clara, California. William Will. December 31, 1889.

11430. **Minium** (oxide of lead). Northern part of Tulare County, California. M. Braverman. December 31, 1889.

11431. **Pottery.** From the ancient "cliff dwellings" on the Dolores River, La Plata County, Colorado. S. P. Glover. December 31, 1889.

11432. **Lava**—Basaltic. Lassen County, California. L. L. Frost. December 31, 1889.

11433. **Colemanite** (borate of lime). Calico, San Bernardino County, California. Mrs. Perry. January 3, 1890.

11434. **Silver Ore**—Argentiferous Galena. Quien Sabe Mine, Cascade Mountains, Washington. William Franks. January 3, 1890.

11435. **Talcose Slate,** with cubical Pyrites. Warren, New Hampshire. D. C. Stone. January 3, 1890.

11436. **Pyrite** (bisulphide of iron), in talcose slate. Warren, New Hampshire. D. C. Stone. January 3, 1890.

11437. **Clay Stones.** Connecticut River at Ryegate, Vermont. D. C. Stone. January 3, 1890.

11438. **Mica Schist.** Bethel, Maine. D. C. Stone. January 3, 1890.

11439. **Iron Ore**—Magnetite; high grade. Franconia, New Hampshire. D. C. Stone. January 3, 1890.

11440. **Iron Ore**—Magnetite. Juneau, Alaska. Thomas J. McCully. January 3, 1890.

11441. **Indian Stone Implements.** San Nicolas Island, Ventura County, California. January 7, 1890.

11442. **Indian Bone Implements.** San Nicolas Island, Ventura County, California. January 7, 1890.

11443. **Pieces of Abalone Shells,** which appear to have been used as implements. San Nicolas Island, Ventura County, California. January 7, 1890.

11444. **Pieces of Abalone Shell,** perforated, and probably worn as ornaments. San Nicolas Island, Ventura County, California, January 7, 1890.

11445. **Slab of Talcose Slate,** perforated; use unknown. San Nicolas Island, Ventura County, California. January 7, 1890.

11446. **Indian Implements,** broken, but very carefully finished; use unknown. San Nicolas Island, Ventura County, California. January 7, 1890.

11447. **Cup,** of good shape, carved from talcose slate. San Nicolas Island, Ventura County, California. January 7, 1890.

11448. **Cup,** carved from piece of sandstone. San Nicolas Island, Ventura County, California. January 7, 1890.

11449. **Stone Pestle,** of unusually smooth finish. San Nicolas Island, Ventura County, California. January 7, 1890.

11450. **Stone Rings**—Two; one of sandstone, the other of a hard, indurated clay. San Nicolas Island, Ventura County, California. January 7, 1890.

11451. **Stone Ring,** unfinished, illustrating the process of manufacture. San Nicolas Island, Ventura County, California. January 7, 1890.

11452. **Stone Pipe** (?), well finished. San Nicolas Island, Ventura County, California. January 7, 1890.

11453. **Stone Hammers;** three specimens. San Nicolas Island, Ventura County, California. January 7, 1890.

11454. **Stone Dish.** Carved from Mica Schist. San Nicolas Island, Ventura County, California. January 7, 1890.

It is the exact shape of a large abalone shell, and appears to have been used over a fire for cooking purposes.

11455. **Large Stone Pestle,** or Phallic Emblem (?). San Nicolas Island, Ventura County, California. January 7, 1890.

11456. **Stone Pestles,** or Phallic Emblems (?); two specimens. San Nicolas Island, Ventura County, California. January 7, 1890.

11457. **Stone Mortar** of unusual shape. San Nicolas Island, Ventura County, California. January 7, 1890.

11458. **Skulls;** two specimens. San Nicolas Island, Ventura County, California. January 7, 1890.

11459. **Limestone Concretion.** Daggett, San Bernardino County, California. January 7, 1890.

11460. **Building Stone.** Partially decomposed Trachyte, the feldspar changing into Kaolin. Easily quarried, and exists in large quantity on Waterloo Mountain, near Daggett, San Bernardino County, California. January 8, 1890.

11461. **Silver Ore**—high grade. From a body of ore recently discovered in the Waterloo Mine, Calico, San Bernardino County, California. January 8, 1890.

11462. **Calcite** (carbonate of calcium), in nodules in clay shale. Calico, San Bernardino County, California. January 8, 1890.

11463. **Calcite** (carbonate of calcium). Jamul Ranch, San Diego County, California. January 8, 1890.

11464. **Crocidolite** (a variety of hornblende). Lakeport, Lake County, California. H. C. Davey. January 8, 1890.

11465. **Conglomerate,** including fossil bones and petrified wood. Agua Caliente, Sonoma County, California. William Cady. January 8, 1890.

11466. **Copper Ore.** Sommer's Mine, Lava Bed District, San Bernardino County, California. January 8, 1890.

11467. **Bismutite** (carbonate of bismuth) and **Bismuthinite** (sulphide of bismuth), with traces of gold. Oasis, Mono County, California. George B. Terrell. January 8, 1890.
Has been worked for gold.

11468. **Montmorillonite** (hydrous silicate of aluminum). Auburn, Maine. J. Z. Davis. January 10, 1890.

11469. **Indian Stone Axes;** ten specimens. Santa Fe, New Mexico. J. Z. Davis. January 10, 1890.

11470. **Indian Stone Hammer.** Santa Fe, New Mexico. J. Z. Davis. January 10, 1890.

11471. **Pickeringite** (hydrous sulphate of aluminum and magnesium). Cerros Pintados, Tarapaca, Chile. J. Z. Davis. January 10, 1890.

11472. **Calcite**—"hacked," with Micaceous Iron. Old Parkside Mine, Cumberland, England. J. Z. Davis. January 10, 1890.

11473. **Aluminum** (ingot 97.76 fine), and rolled sheet. J. Z. Davis. January 10, 1890.

11474. **Silicified Wood.** Polished cross section of tree from the "Petrified Forest," Arizona. J. Z. Davis. January 10, 1890.

11475. **Calcite**—var. "Iceland Spar," showing the double refractive power of this mineral to a remarkable degree. Iceland. J. Z. Davis. January 10, 1890.

11476. **Pyrite** (bisulphide of iron). Dux, Bohemia. J. Z. Davis. January 10, 1890.

11477. **Tetrahedrite** (sulph-antimonide of copper). Kapnitz, Hungary. J. Z. Davis. January 10, 1890.

11478. **Descloisite** (vanadate of lead and zinc), and **Vanadinite.** Mimbres Mine, Georgetown, New Mexico. J. Z. Davis. January 10, 1890.

11479. **Dolomite** (carbonate of calcium and magnesium). Postlethwaite Mine, Cumberland, England. J. Z. Davis. January 10, 1890.

11480. **Limonite** (hydrate of iron). Siegen, Prussia. J. Z. Davis. January 10, 1890.

11481. **Brochantite** (hydrous sulphate of copper). Frisco, Utah. J. Z. Davis. January 10, 1890.

11482. **Marcasite** (sulphide of iron) on quartz. Guanajuata, Mexico. J. Z. Davis. January 10, 1890.

11483. **Marcasite**—"Cupid's Ring." Lyme Regis, England. J. Z. Davis. January 10, 1890.

11484. **Onyx** (quartz). Polished. J. Z. Davis. January 10, 1890.

11485. **Onyx** (quartz). Polished. J. Z. Davis. January 10, 1890.

11486. **Barite** (sulphate of barium). Berks County, Pennsylvania. J. Z. Davis. January 10, 1890.

11487. **Agate**—double "fortification" agate. Polished. J. Z. Davis. January 10, 1890.

11488. **Agate** (quartz). Polished. J. Z. Davis. January 10, 1890.

11489. **Agate**—banded "carnelian" agate. Polished J. Z. Davis. January 10, 1890.

11490. **Agate**—"fortification" agate, with center of quartz crystals. Polished. J. Z. Davis. January 10, 1890.

11491. **Quartz**, crystallized, and **Agate.** Polished. J. Z. Davis. January 10, 1890.

11492. **Gold Quartz,** rich in free gold. Peterson Mine, Cargo Muchacho District, San Diego County, California. Richard Garvey, per Thomas E. Frazer. January 11, 1890.

11493. **Quartzite** (polished). Sioux Falls, South Dakota. J. W. Foss. January 13, 1890.

This stone is quarried in large quantities for building purposes; is said to resist fire well, and is known in the trade by the name of "Sioux Falls Jasper."

11494. **Tin Ore**—Cassiterite, and Tin reduced from it. From a recent discovery in Mexico. W. S. Keyes. January 15, 1890.

11495. **Antimony Ore**—Stibnite. Upper end of Death Valley, Inyo County, California. Dr. Chase. January 15, 1890.

11496. **Embolite** (chlorobromide of silver), on ferruginous quartz, with opal. Broken Hill, New South Wales, Australia. Louis Janin. January 20, 1890.

11497. **Embolite** (chlorobromide of silver), on carbonate and sulphide of copper. Broken Hill, New South Wales, Australia. Louis Janin. January 20, 1890.

11498. **Embolite** (chlorobromide of silver). Broken Hill, New South Wales, Australia. Louis Janin. January 20, 1890.

11499. **Cerussite** (carbonate of lead). Broken Hill, New South Wales, Australia. Louis Janin. January 20, 1890.

11500. **Selenium,** in ore from the El Plomo Mine, Ojojona District, Department of Tegucigalpa, Honduras. Charles Thistlewaite. January 22, 1890.

11501. **Turquois** (hydrous phosphate of aluminum). Santa Fe, New Mexico. January 22, 1890.

11502. **Topaz** (silicate of aluminum), with Mica, on Feldspar. Japan. J. Z. Davis. January 23, 1890.

11503. **Celestite** (sulphate of strontium), on Colemanite. Calico, San Bernardino County, California. January 23, 1890.

11504. **Quartz Crystals.** Devil's Gate, Silver City, Lyon County, Nevada. James Goucher. January 23, 1890.

11505. **Chromic Iron.** Lexington, Santa Clara County, California. January 24, 1890.

11506. **Manganese Ore**—Pyrolusite. Penetencia Creek, Santa Clara County, California. January 24, 1890.

11507. **Indian Stone Implements**; two. California. D. C. Stone. January 27, 1890.

11508. **Indian Stone Hatchet.** California. D. C. Stone. January 27, 1890.

11509. **Halite** (chloride of sodium). Twenty-seven miles S.E. from Danby, San Bernardino County, California. February 5, 1890.

11510. **Rhyolite.** From the crater of an extinct volcano, two miles from Bagdad, San Bernardino County, California. February 5, 1890.

11511. **Lava.** From the crater of an extinct volcano, two miles from Bagdad, San Bernardino County, California. February 5, 1890.

11512. **Silver Ore,** with Gold. Tough Nut Mine, Scanlon District, 12 miles from Danby, San Bernardino County, California. February 5, 1890.

11513. **Silver Ore.** Guadalupana Mine, under the City of Rosario, Sinaloa, Mexico. C. A. Hamilton. February 12, 1890.

11514. **Silver**—Native, in rich ore. Promontorio Mine, 80 miles N.W. from the City of Durango, Mexico. C. A. Hamilton. February 12, 1890.

11515. **Iron Ore**—Hematite and Limonite of excellent quality, with iron made from it. From an immense deposit near the City of Durango, Mexico, where very extensive iron works have been erected. C. A. Hamilton. February 12, 1890.

11516. **Mercury**—Native, with Cinnabar. Hattie White Mine, Pine Flat, Sonoma County, California. C. A. Grimmer. February 15, 1890.

11517. **Cuprite** (oxide of copper), the variety known as "Tile ore." Rosario Mine, Santa Rosa, Tarapaca, Chile. Hon. M. Rosenstock. February 19, 1890.

11518. **Huantajayite** (argentiferous halite). Rosario Mine, Santa Rosa, Tarapaca, Chile. Hon. M. Rosenstock. February 19, 1890.

COMPOSITION.

Chloride of silver	11 parts.
Chloride of sodium	89 parts.
	100 parts.

11519. **Embolite** (chlorobromide of silver). San Augustine Mine, Huantajaya, Tarapaca, Chile. Hon. M. Rosenstock. February 19, 1890.

11520. **Silver Ore.** Stonewall Jackson Mine, seven miles from Barstow, San Bernardino County, California. February 19, 1890.

11521. **Gold Quartz.** Elkhorn Mine, Baker County, Oregon. J. H. Robbins. February 28, 1890.

Assay, $400 per ton.

11522. **Gold,** in Hematite. Golden Era Mine, Sierra City, Sierra County, California. Thomas Murphy. February 28, 1890.

11523. **Coal**—Lignite. Overton Ranch, Tomales Bay, Marin County, California. P. Morrisey. February 28, 1890.

11524. **Coal**—Anthracite. Cloquato, Lewis County, Washington. H. C. Davis. February 28, 1890.

11525. **Pilinite** (hydrous silicate of aluminum, calcium, and lithium). Smartsville, Yuba County, California. J. F. Dempsey. February 28, 1890.

11526. **Fossils**—Belemnites sp. ? or shell of an Orthoceras. From an island off the coast of Sweden. J. Anderson. February 28, 1890.

11527. **Athyris Sp.?** Fossils from the clay beds near Milwaukee, Wisconsin. J. J. Kinrade. February 28, 1890.

11528. **Inoceramus and Fusus Sps.?** Fossils from the Yellowstone Park, Montana. J. J. Kinrade. February 28, 1890.

11529. **Arca microdonata.** Cretaceous fossil. San Juan, Monterey County, California. Hon. Thomas Flint. March 3, 1890.

11530. **Tin Ore**—Cassiterite. Maitland, Queensland, Australia. March 3, 1890.

11531. **Muscovite** (silicate of aluminum and potassium). Arizona. J. W. Maguire. March 3, 1890.

11532. **Clay,** with Gypsum and very fine quartz sand. San Diego, California. C. R. Chase, M.D. March 5, 1890.

11533. **Chalcodite** (hydrous silicate of iron), on quartz. Santa Barbara, California. Marcus Goldtree. March 7, 1890.

11534. **Calamine** (silicate of zinc), with some Smithsonite. Cuticura Mine, near Daggett, San Bernardino County, California. March 8, 1890.

11535. **Gold Nugget.** Blue Wing Consolidated Mine, Iowa Hill, Placer County, California. March 12, 1890.
Weight, 30 ounces.

11536. **Gold,** in leaf form, and partially crystallized. Kelsey District, El Dorado County, California. March 12, 1890.

11537. **Building Stone**—Sandstone. Port Costa, Contra Costa County, California. G. W. McNear, Jr. March 15, 1890.

11538. **Old Flint Lock Rifle.** Formerly the property of Charles Cannon, of Ohio, who carried it in the war of 1812. His son, H. B. Cannon, brought it overland to California, crossing the Colorado River, January 5, 1850. Presented by his widow, Mrs. M. S. Cannon. March 22, 1890.

11539. **Volcanic Tufa.** Calistoga, Napa County, California. G. P. Boynton. March 27, 1890.

11540. **Anamesite,** a variety of Basalt. Calistoga, Napa County, California. G. F. Boynton. March 27, 1890.

11541. **Clay,** with a little very fine sand. Known as "Callustro Rock." Calistoga, Napa County, California. G. F. Boynton. March 27, 1890.

11542. **Zeolites,** with native copper in trap rock. Lake Superior, Michigan. George H. Reilley. March 27, 1890.

11543. **Copper**—Native, on massive **Analcite.** Lake Superior, Michigan. George H. Reilley. March 27, 1890.

11544. **Indian Stone Pestle,** of unusually smooth finish. J. Z. Davis. March 27, 1890.

11545. **Fossil**—Cast of Inoceramus Sp. (?). Cooks Inlet, Alaska. W. Reimers. March 27, 1890.

11546. **Calcareous Incrustation on Bottles.** Geyser Springs, Yellowstone Park, Montana. M. J. McDonald. March 27, 1890.

11547. **Chalcocite** (sulphide of copper), crystallized. Redruth, Cornwall, England. March 27, 1890.

11548. **Azurite** and **Malachite** (carbonate of copper), in fine crystals. Holbrook & Cave Mine, Arizona. Lewis Williams. March 27, 1890.

11549. **Indian Arrow and Spear Heads,** of Obsidian. Cemetery at Sacramento, California. J. Z. Davis. March 27, 1890.

11550. **Indian Arrow Points,** of Stone. Monterey County, California. J. Z. Davis. March 27, 1890.

11551. **Indian Arrow Points,** of Stone. Marin County, California. J. Z. Davis. March 27, 1890.

11552. **Indian Arrow Points,** of Stone. Del Norte County, California. J. Z. Davis. March 27, 1890.

11553. **Indian Arrow Points,** of Stone. Various. California. J. Z. Davis. March 27, 1890.

11554. **Indian Arrow Points**, of Stone. San Miguel Island, Santa Barbara County, California. J. Z. Davis. March 27, 1890.

11555. **Indian Arrow Points**, of Stone. San Miguel Island, Santa Barbara County, California. J. Z. Davis. March 27, 1890.

11556. **Indian Arrow Points**, of Obsidian. Modoc County, California. J. Z. Davis. March 27, 1890.

11557. **Indian Arrow Points,** of Stone. Santa Rosa Island, Santa Barbara County, California. J. Z. Davis. March 27, 1890.

11558. **Indian Arrow Points,** of Stone. Santa Barbara County, California. J. Z. Davis. March 27, 1890.

11559. **Indian Arrow Points,** of Stone. Santa Cruz Island, Santa Barbara County, California. J. Z. Davis. March 27, 1890.

11560. **Indian Arrow Points,** of Glass. Klamath River, California. J. Z. Davis. March 27, 1890.

11561. **Indian Spear Heads,** of Stone. Santa Barbara County, California. J. Z. Davis. March 27, 1890.

11562. **Indian Arrow Point,** of clear crystal quartz. Calaveras County, California. J. Z. Davis. March 27, 1890.

11563. **Indian Spear Head,** of Obsidian. Yolo County, California. J. Z. Davis. March 27, 1890.

11564. **Indian Arrow Points.** Santa Fe, New Mexico. J. Z. Davis. March 27, 1890.

11565. **Indian Arrow Points,** of Obsidian and Jasper. Celilo, Oregon. J. Z. Davis. March 27, 1890.

11566. **Indian Arrow Points,** of Stone. Clackamas County, Oregon. J. Z. Davis. March 27, 1890.

11567. **Indian Spear Head.** New Mexico. J. Z. Davis. March 27, 1890.

11568. **Indian Arrow Points.** Washington. J. Z. Davis. March 27, 1890.

11569. **Indian Arrow Point,** of Stone. Victoria, British Columbia. J. Z. Davis. March 27, 1890.

11570. **Indian Arrow Points,** of Stone. Chihuahua, Mexico. J. Z. Davis. March 27, 1890.

11571. **Indian Arrow Points,** of Stone. Illinois. J. Z. Davis. March 27, 1890.

11572. **Indian Arrow Points,** of Stone. Found near the old brick meeting house built by William Penn, Cecil County, Maryland. J. Z. Davis. March 27, 1890.

11573. **Indian Arrow Points,** of Stone. Kentucky. J. Z. Davis. March 27, 1890.

11574. **Indian Spear Heads,** of Stone. Kentucky. J. Z. Davis. March 27, 1890.

11575. **Indian Spear Head and Arrow Points,** of Basaltic Lava. Mississippi. J. Z. Davis. March 27, 1890.

11576. **Mexican Metate and Muller,** for grinding corn. Chihuahua, Mexico. J. Z. Davis. March 29, 1890.

11577. **Indian Stone Implements,** for grinding seeds. Santa Barbara, California. J. Z. Davis. March 29, 1890.

11578. **Indian Stone Spear Heads;** nine specimens. Burlington County, New Jersey. J. Z. Davis. March 29, 1890.

11579. **Indian Stone Hatchets** (two), without grooves. Greenville, Fayette County, Kentucky. J. Z. Davis. March 29, 1890.

11580. **Indian Stone Hatchets** (two), with grooves. Greenville, Fayette County, Kentucky. J. Z. Davis. March 29, 1890.

11581. **Sphere of Brecciated Marble;** polished. Japan. J. Z. Davis. March 29, 1890.

11582. **Garnets,** in Mica Schist. Redding, Connecticut. J. Z. Davis. March 29, 1890.

11583. **Orthoclase**—Feldspar (silicate of aluminum and potassium). Japan. J. Z. Davis. March 29, 1890.

11584. **Jadeite** (silicate of aluminum, calcium, and sodium). New Zealand. J. Z. Davis. March 29, 1890.

11585. **Agate**—Concentric, waterworn. Stanislaus River, Calaveras County, California. J. Z. Davis. March 29, 1890.

11586. **Waterworn Bowlder of Stratified Claystone.** Forest Hill, Placer County, California. J. Z. Davis. March 29, 1890.

11587. **Granite**—"Red Scotch." Two varieties; polished. J. Z. Davis. March 29, 1890.

11588. **Granite**—"Bessbrook." Two varieties; polished. Armagh, Ireland. J. Z. Davis. March 29, 1890.

11589. **Granite**—"Red Scotch;" polished specimen. Peterhead, Aberdeenshire, Scotland. J. Z. Davis. March 29, 1890.

11590. **Granite**; polished specimen. Crugnair Quarry, Dalbeattie, Scotland. J. Z. Davis. March 29, 1890.

11591. **Granite**—"Light Shap;" polished specimen. Shap, Westmoreland, England. J. Z. Davis. March 29, 1890.

11592. **Granite**—"Dark Shap;" polished specimen. Shap, Westmoreland, England. J. Z. Davis. March 29, 1890.

11593. **Granite** — Red; polished specimen. Red Beach, Washington County, Maine. J. Z. Davis. March 29, 1890.

11594. **Orange Wood.** Transverse oblique section. J. Z. Davis. March 29, 1890.

11595. **Pyrite** (bisulphide of iron). Cubical crystals found in a landslide on the Oregon and California Railroad, near Dunsmuir, Siskiyou County, California. John Gorman. April 2, 1890.

11596. **Nickel.** Smelted from ore from the National Nickel Mining Company's Mine, Cottonwood Cañon, Churchill County, Nevada. L. P. Goldstone. April 2, 1890.

11597. **Auriferous Porphyry and Quartz,** showing free gold. Cerro Colorado, near Batopilas, Chihuahua, Mexico. Marcus A. Delfs. April 2, 1890.

11598. **Muscovite** (mica); two specimens. Muscovite Mica Mine, Moscow, Idaho. G. B. Dennis. April 4, 1890.

11599. **Asbolite**—Earthy cobalt, with a little chrysocolla and manganese oxide. Colton, San Bernardino County, California. Marcus Pluth. April 4, 1890.

11600. **Lava.** From an extinct volcano at Silver Peak, Esmeralda County, Nevada. April 7, 1890.

11601. **Dendrites.** Lida Valley, Esmeralda County, Nevada. April 7, 1890.

11602. **Chalk** (carbonate of calcium). England. April 7, 1890.

11603. **Sulphur.** From a deposit near the road from Columbus to Silver Peak, Esmeralda County, Nevada. John Chiatowitch. April 7, 1890.

11604. **Silicified Wood.** From a deposit near the road from Columbus to Silver Peak, Esmeralda County, Nevada. John Chiatowitch. April 7, 1890.

11605. **Silver Ore.** Vanderbilt Mine, Silver Peak, Esmeralda County, Nevada. Thomas Mauser. April 7, 1890.

11606. **Gold Quartz,** very rich in free gold. Drinkwater Mine, Silver Peak, Esmeralda County, Nevada. John Chiatowitch. April 7, 1890.

11607. **Gold,** on crystallized quartz. Beveridge, Inyo County, California. John Chiatowitch. April 7, 1890.

11608. **Flint** (a variety of quartz). From the Chalk Cliffs, England. April 7, 1890.

11609. **Silver**—Native. Silver King Mine, Arizona. John Skinker. April 7, 1890.

11610. **Chrysotile,** in Serpentine. New Eureka Mine, Grass Valley, California. John Skinker. April 7, 1890.

11611. **Gold,** on quartz. Martin & Walling Mine, Mariposa County, California. J. Z. Davis. April 7, 1890.

11612. **Chalcodite** (sulphide of iron). Sterling Iron Mine, Antwerp, New York. April 7, 1890.

11613. **Nontronite** (hydrous silicate of iron), changing into Limonite. Georgetown, El Dorado County, California. H. E. Stockwell. April 14, 1890.

11614. **Magnetite** (proto-sesquioxide of iron). Coloma, El Dorado County, California. H. E. Stockwell. April 14, 1890.

11615. **Gold Quartz.** Rosecrans Mine, El Dorado County, California. H. E. Stockwell. April 14, 1890.

11616. **Gold Quartz,** showing free gold, with argentiferous galena. Esperanza Mine, El Dorado County, California. H. E. Stockwell. April 14, 1890.

11617. **Gold Quartz.** Barnes Mine, Shingle Springs, El Dorado County, California. H. E. Stockwell. April 14, 1890.

11618. **Gold Quartz.** Humbug Mine, Grizzly Flat, El Dorado County, California. H. E. Stockwell. April 14, 1890.

11619. **Gold Quartz.** Gentle Annie Mine, near Placerville, El Dorado County, California. H. E. Stockwell. April 14, 1890.

11620. **Gold Quartz,** with Magnetite, and showing free gold. Baltic District, El Dorado County, California. H. E. Stockwell. April 14, 1890.

11621. **Gold Quartz.** Treadwell Mine, Douglas Island, Alaska. Edward Jones. April 14, 1890.

11622. **Gold and Quartz Crystals.** Found in clearing up brush land for cultivation near Jamestown, Tuolumne County, California. April 14, 1890.

In the middle one of the three most prominent quartz crystals is included gold.

11623. **Serpentine;** polished. Vicinity of the Cora Belle Mine, Amador County, California. Richard A. Weiss. April 14, 1890.

11624. **Aphanite** (calcareous). Wall rock of the Niagara Mine, Shasta County, California. April 14, 1890.

11625. **Pisolite** (carbonate of calcium). Locally called "Pea Grit." From the Lower Oolite, near Cheltenham, England. W. L. Watts. April 14, 1890.

The granules are made by the growth of a Foramirifera—Girvanella pisolitica.

11626. **Building Stone**—Limestone. Great Oolite formation. Bath, Somersetshire, England. W. L. Watts. April 14, 1890.

11627. **Talc** (massive). Tehama County, California. J. A. Heslewood. April 14, 1890.

11628. **Feldspar**—Orthoclase (silicate of aluminum and potassium), in crystals. Judith Mountains, Fergus County, Montana. R. Dillon. May 6, 1890.

11629. **Granulite** (granitic, with garnets). Cross dike in the Gambetta Mine, Potter Ridge District, Fresno County, California. May 7, 1890.

11630. **Gold Quartz,** showing free gold. Gambetta Mine, Potter Ridge District, Fresno County, California. May 7, 1890.

11631. **Gold Quartz,** showing free gold in wire form. Mountain View Mine, Fine Gold District, Fresno County, California. May 7, 1890.

11632. **Gypsum** (hydrous sulphate of calcium), var. **Alabaster.** White Plains, Churchill County, Nevada. W. E. Lindsey. May 8, 1890.

Said to occur in large quantity.

11633. **Coal**—Bituminous. Japan. George E. Boardman. May 8, 1890.

ANALYSIS, S. M. B.

Volatile hydrocarbons and water	37.40
Fixed carbon	56.30
Ash	6.30
	100.00

11634. **Auriferous Quartz Breccia.** Hayden Hill, Lassen County, California. S. Lewis. May 8, 1890.

11635. **Gypsum** (hydrous sulphate of calcium). Tulare, California. William Fleming. May 8, 1890.

11636. **Gypsum** (hydrous sulphate of calcium). San Jacinto, San Diego County, California. L. Menifee Wilson. May 8, 1890.

11637. **Coal**—Lignite. Summit Farm, Santa Rosa, Sonoma County, California. G. N. Whitaker. May 8, 1890.

11638. **Silicified Wood,** in which is imbedded Lignite of fair quality. Summit Farm, Santa Rosa, Sonoma County, California. G. N. Whitaker. May 8, 1890.

11639. **Perlite,** a variety of Obsidian—Sphærulitic. Summit Farm, Santa Rosa, Sonoma County, California. G. N. Whitaker. May 8, 1890.

11640. **Felsite.** Summit Farm, Santa Rosa, Sonoma County, California. G. N. Whitaker. May 8, 1890.

11641. **Limestone**—Hydraulic. Kern County, California. J. A. Lytle. May 8, 1890.

11642. **Feldspar**—Argentiferous. White Line Mine, Deep Spring District, Inyo County, California. C. H. McConnell. May 8, 1890.

11643. **Aragonite** (carbonate of calcium). Tulare, California. J. A. Lytle. May 8, 1890.

11644. **Slate,** of good quality for roofing. Ione, Amador County, California. John Rostron. May 8, 1890.

11645. **Pitchstone,** a variety of Obsidian. Little Caliente Creek, Kern County, California. A. Blanc. May 8, 1890.

11646. **Coal.** Chignik Bay, Alaska. Warren Henderson. May 8, 1890.

11647. **Ferrocyanide of Potash.** Newark, New Jersey. F. Formhals. May 9, 1890.

11648. **Quartz**—Amethystine. Johnson's Point, Santa Catalina Island, California. May 9, 1890.

11649. **Hornblende Schist,** with **Garnets.** Ruby Hill, Santa Catalina Island, California. May 9, 1890.

11650. **Gold Quartz.** Utah and California Mine, Old Diggings District, Shasta County, California. May 9, 1890.
Selected specimen, assay, $700 per ton.

11651. **Gold Quartz.** Little Nellie Mine, Flat Creek District, Shasta County, California. May 9, 1890.

11652. **Building Stone**—Arkose (feldspathic sandstone). Three miles west of Clear Creek Station, Shasta County, California. May 9, 1890.

Lies almost horizontal; width, 900 feet; length, 20 miles; dip, S.E.; trend, N. by S.

11653. **Copper Ore**—Chalcopyrite. Two varieties and wall rock. Neiper Mine, Big Dry Creek District, Fresno County, California. May 9, 1890.

11654. **Gold Quartz.** Morrow Mine, Hildreth District, Fresno County, California. May 9, 1890.

11655. **Scheelite** (tungstate of calcium). Julian, San Diego County, California. A. J. Burnett. May 10, 1890.

11656. **Lava.** Hawaiian Islands. John Bryant. May 10, 1890.

11657. **Dendrites,** on Basalt. Petaluma, Sonoma County, California. Benjamin C. Hessletine. May 10, 1890.

11658. **Spinel** (oxide of aluminum and magnesium). New York. Miss S. P. Monks. May 10, 1890.

11659. **Pyrophyllite** (hydrous silicate of aluminum). North Carolina. Miss S. P. Monks. May 10, 1890.

11660. **Phrenite** (silicate of aluminum and calcium); altered. Bergen Hill, New Jersey. Miss S. P. Monks. May 10, 1890.

11661. **Cymatolite,** a variety of Pihlite (hydrous silicate of aluminum). Branchville, Connecticut. Miss S. P. Monks. May 10, 1890.

11662. **Zircon** (silicate of zirconium). Orange County, New York. Miss S. P. Monks. May 10, 1890.

11663. **Columbite** (columbate of iron). Branchville, Connecticut. Miss S. P. Monks. May 10, 1890.

11664. **Allochroite,** a variety of Garnet (silicate of aluminum, iron, calcium, etc.). Orange County, New York. Miss S. P. Monks. May 10, 1890.

11665. **Terebratula sayii.** Cretaceous fossils (Greensand). New Jersey. Miss S. P. Monks. May 10, 1890.

11666. **Sandstone** — Crystallized and containing Mica. Little Harbor, Santa Catalina Island, Los Angeles County, California. May 10, 1890.

11667. **Quartz**—Striated; possibly a pseudomorph. Cottonwood Divide, Santa Catalina Island, Los Angeles County, California. May 10, 1890.

11668. **Talc** (silicate of magnesium). Little Harbor, Santa Catalina Island, Los Angeles County, California. May 10, 1890.

11669. **Ostrea falcata.** Cretaceous fossils (Greensand). New Jersey. Miss S. P. Monks. May 10, 1890.

11670. **Nitro-calcite** (nitrate of calcium). San Bernardino, California. Thomas C. Warden. May 10, 1890.

11671. **Antimony**—Native; with **Stibiconite** (hydrous oxide of antimony). Little Caliente Springs, Kern County, California. A. Blanc. May 19, 1890.

11672. **Granite.** A one-foot cube dressed and polished. Rocky Point Granite Works, Exeter, Tulare County, California. Messrs. Griffith, Owens & Hughes. May 19, 1890.

11673. **Bementite** (silicate of manganese and zinc). Trotter Mine, Franklin, New Jersey. J. Z. Davis. May 19, 1890.

11674. **Baryto-calcite** (carbonate of barium and calcium). Alston Moor, Cumberland, England. J. Z. Davis. May 19, 1890.

11675. **Childrenite** (hydrous phosphate of aluminum, iron, and manganese). Wheal Crebor, Devonshire, England. J. Z. Davis. May 19, 1890.

11676. **Rocker.** Old style California rocker; formerly much used for gold washing in shallow diggings. Mariposa County, California. D. Lawson. May 26, 1890.

11677. **Granite**—Fine grained. Mount Tamalpais, Marin County, California. May 26, 1890.

11678. **Heads of baked clay.** Found in grading for a railroad near the City of Mexico, and supposed by Mexican antiquarians to have been votive offerings of the Toltecs. Miss F. Gates. June 3, 1890.

11679. **Wood Specimens.** Seven samples of useful New Zealand woods. Professor F. D. Brown. June 3, 1890.

A. **Kauri Pine** — Agathis australis (mottled).
B. **Kauri Pine** — Agathis australis (wavy).
C. **Maire-rau-nui**—Olea cunninghami.
D. **Puriri**—Vitex littoralis.
E. **Rewarewa**—Knightia excelsa.
F. **White Maire**—Olea lanceolata.
G. **Hohutukawa**—Metrosideros tomentosa.

11680. **Gold Quartz,** rich in free gold. Eureka Mine, Pine Valley, San Diego County, California. William Noble. June 7, 1890.

A new discovery about ten miles south of the Stonewall Mine. Said to assay $2,000 per ton.

11681. **Stibnite** (sulphide of antimony); in fine crystals. Ambrose Mine, Hollister, San Benito County, California. June 7, 1890.

11682. **Gold Quartz**, rich in free gold. Taken at the depth of 1,500 feet in the Idaho Mine, Grass Valley, Nevada County, California. Edward Coleman. June 7, 1890.

11683. **Gold Quartz,** with Mariposite. From the new pay shoot discovered recently at a depth of 1,900 feet below the surface. Idaho Mine, Grass Valley, California. Edward Coleman. June 7, 1890.

11684. **Gold Quartz**, rich in free gold. From the recently discovered pay shoot, at a depth of 1,900 feet below the surface. Idaho Mine, Grass Valley, Nevada County, California. Edward Coleman. June 7, 1890.

11685. **Silver Ores,** rich in native silver. From the San Cayetano and Ventanas Mine, Ventanas, Durango, Mexico. W. F. Campbell. June 7, 1890.

11686. **Marble.** Near line of C. & C. R. R., Inyo County, California. D. A. Bender. June 10, 1890.

11687. **Exogyra costata.** Cretaceous fossil (Greensand). New Jersey. Miss S. P. Monks. June 7, 1890.

11688. **Gryphaæ vesicularis.** Cretaceous fossil (Greensand). New Jersey. Miss S. P. Monks. June 10, 1890.

11689. **Azurite** (hydrous carbonate of copper). Copper Queen Mine, Bisbee, Arizona. J. Z. Davis. June 11, 1890.

11690. **Cuprite** (oxide of copper), with Native Copper and Adamantine crystals. Copper Queen Mine, Bisbee, Arizona. J. Z. Davis. June 11, 1890.

11691. **Brookite** (titanic acid). Magnet Cove, Arkansas. June 12, 1890.

11692. **Cassiterite** (oxide of tin). St. Austell, Cornwall, England. June 12, 1890.

11693. **Crocoite** (chromate of lead). Beresovsk, Siberia. June 12, 1890.

11694. **Copper.** A pseudomorph after Azurite. Georgetown, New Mexico. June 12, 1890.

11695. **Perofskite** (oxide of titanium and calcium). Magnet Cove, Arkansas. June 12, 1890.

11696. **Hiddenite,** a variety of Spodumene (silicate of aluminum and lithium). Alexander County, North Carolina. June 12, 1890.

11697. **Calcite** (carbonate of calcium), var. "Fontainebleau Limestone." Fontainebleau, France. June 12, 1890.

11698. **Calcite** (carbonate of calcium), crystallized. Egremont, Cumberland, England. June 12, 1890.

11699. **Millerite** (sulphide of nickel), on Stilpnomelane (hydrous silicate of iron). Sterling Mine, Antwerp, New York. June 12, 1890.

11700. **Galeno-bismutite** (sulphide of bismuth and lead). Nordmark, Sweden. June 12, 1890.

11701. **Aegirite** (silicate of iron, calcium, and sodium). Hot Springs, Arkansas. June 12, 1890.

11702. **Beegerite** (sulphide of bismuth and lead). Old Lout's Mine, Ouray, Colorado. June 12, 1890.

11703. **Zorgite** (selenide of lead and copper). Tilkerode, Hartz, Germany. June 12, 1890.

11704. **Apatite** (phosphate of calcium). Ehrenfriedersdorf, Saxony. June 12, 1890.

11705. **Hydrozincite** (hydrous carbonate of zinc). Granby, Missouri. June 12, 1890.

11706. **Jarosite** (hydrous sulphate of iron and potassium). Mammoth Mine, Tintic District, Utah. June 12, 1890.

11707. **Pachnolite** (fluoride of aluminum, calcium, and sodium); and **Hagemannite**, a variety of Thomsenolite. Greenland. June 12, 1890.

11708. **Adamite** (hydrous arsenate of zinc). Laurium, Greece. June 12, 1890.

11709. **Stannite** (sulphide of copper, iron, zinc, and tin). Cornwall, England. June 12, 1890.

11710. **Pharmacosiderite** (hydrous arsenate of iron). Cornwall, England. June 12, 1890.

11711. **Hagemannite,** a variety of Thomsenolite (fluoride of aluminum, calcium, and sodium). Greenland. June 12, 1890.

11712. **Hyalite,** var. Opal. Lake County, California. H. H. Meyer. June 13, 1890.

11713. **Bituminous Limestone, with Pyrite,** and traces of copper. Lower Lake, Lake County, California. George Edmans. June 13, 1890.

11714. **Asbestus.** Corsica. R. H. Jones. June 13, 1890.

11715. **Calcite** (carbonate of calcium), in crystals, on limestone. "Bad Lands," Cheyenne River, Pennington County, South Dakota. J. H. Reilly. June 13, 1890.

11716. **Indian Stone Pestle.** Kernville, Kern County, California. A. Blanc. June 13, 1890.

11717. **Thorite** (silicate of thorium). Norway. June 14, 1890.

11718. **Eklogite Rock.** Santa Inez, Santa Barbara County, California. June 14, 1890.

11719. **Copper Ore.** Rich in copper and carrying a high percentage of silver. Parrott group of mines, Montana. J. Z. Davis. June 17, 1890.

11720. **Copper Ore**—Bornite. 1200-foot level of the Lexington Mine, Montana. J. Z. Davis. June 17, 1890.

11721. **Silver Ore.** Rich ore showing Native Silver. Lexington Mine, Montana. J. Z. Davis. June 17, 1890.

11722. **Silver Ore.** Carrizal Mine, Sonora, Mexico. J. B. Hobson. June 17, 1890.

11723. **Wall Rock.** Hanging wall of the Gold Ball Mine, Sawyers Bar, Siskiyou County, California. From the Company. June 17, 1890.

11724. **Gold Quartz.** From the hanging wall, No. 11723. From the Company. June 17, 1890.

11725. **Gold Quartz.** From rich streak in the center of vein of the Gold Ball Company. From the Company. June 17, 1890.

11726. **Gold Quartz.** From the foot wall, No. 11727. From the Company. June 17, 1890.

11727. **Wall Rock.** Foot wall of the Gold Ball Mine, Sawyers Bar, Siskiyou County, California. From the Company. June 17, 1890.

11728. **Gypsum** (carved). Rancho Casmalia, Point Sal, Santa Barbara County, California. C. W. Merritt. June 19, 1890.

11729. **Ouvarovite** (chrome garnet). Shotgun Creek, Shasta County, California. Homer Williams. June 19, 1890.

11730. **Pyrite** and **Slate with Pyrite.** Shotgun Creek, Shasta County, California. Homer Williams. June 19, 1890.

11731. **Gold Quartz.** Reid's Mine, Old Diggings District, Shasta County, California. June 19, 1890.

11732. **Gold Quartz,** with inclosing rocks. Uncle Sam Mine, Shasta County, California. June 19, 1890.

11733. **Gold Quartz.** Hope Mine, French Gulch, Shasta County, California. June 19, 1890.

11734. **Gold Quartz.** Middleton District, Shasta County, California. June 19, 1890.

11735. **Gold Quartz.** Snider Mine, Shasta County, California. June 19, 1890.

11736. **Gold Quartz.** Washington Mine, French Gulch, Shasta County, California. June 19, 1890.

11737. **Copper Ore**—Chalcopyrite. Said to carry gold and silver. San Diegan Mine, 20 miles from San Diego, San Diego County, California. June 19, 1890.

11738. **Antimony Ore**—Stibnite. Ledge, 8 feet wide. Sec. 38, T. 27 S., R. 9 E., M. D. M., head of San Simeon Creek, San Luis Obispo County, California. June 19, 1890.

11739. **Mineral Paint**—Iron oxide. From a large deposit, 8 miles S.W. from Ferndale, Humboldt County, California. June 19, 1890.

11740. **Building Stone**—Gneiss. Quarry, 8 miles north from Eureka, Humboldt County, California. June 19, 1890.

11741. **Wall Rock**—Slate. Hanging wall of the Niagara Mine, Shasta County, California. June 20, 1890.

11742. **Wall Rock**—Porphyritic Diorite. Foot wall of Niagara Mine, Shasta County, California. June 20, 1890.

11743. **Redwood Bark.** Eureka, Humboldt County, California. G. H. Close. June 20, 1890.
Cut in form of an obelisk, the height of which shows the thickness of the bark, 20½ inches.

11744. **Molybdenite** (sulphide of molybdenum), in quartz. From a ledge said to be 50 feet wide, near Soda Springs, Minarets District, Fresno County, California. June 20, 1890.

11745. **Calcareous Concretions.** Rancho El Encino, San Fernando Valley, Los Angeles County, California. June 20, 1890.

11746. **Calcareous Tufa.** Formed on roots. Palmer Cave, Tulare County, California. M. Braverman. June 20, 1890.

11747. **Jasper;** five varieties. Jacilitos Creek, Fresno County, California. June 20, 1890.

11748. **Silver Ore.** Needle Mine, Prospect Mountain, Eureka, Nevada. Charles Dehman. June 20, 1890.
Said to assay $1,000 per ton.

11749. **Gold Quartz,** showing free gold. Johnston Mine, Cherokee District, Tuolumne County, California. June 26, 1890.

11750. **Gold Quartz.** Rising Sun Mine, Cherokee District, Tuolumne County, California. June 26, 1890.

11751. **Gold Quartz.** Santa Maria Mine, Cherokee District, Tuolumne County, California. June 26, 1890.

11752. **Gold Quartz** and **Calcite,** showing free gold, and **Petzite** (telluride of gold). Sugarman Mine, Tuolumne County, California. June 26, 1890.

11753. **Gold Quartz.** Soul
County, California.

11754. **Gold Quartz,** showing
ing rock. Soulsb
Tuolumne County,
1890.

11755. **Gold Quartz,** showing
in the black slate,
town, Tuolumne Co
26, 1890.

11756. **Gypsum** (hydrous
Santa Ana, Orang
June 26, 1890.

11757. **Quartz**—Lamellar.
Virginia. J. Z. Da

11758. **Tufa**—Volcanic, and
Lassen County, Ca
June 27, 1890.

11759. **Manganese Ore**—Py
Moore Creek, branc
St. Helena, Napa C
A. Coleman. June

11760. **Auriferous "Cap**
Shasta, Shasta Coun
Engram. June 27,

A partially decomposed t
very fine particles, probabl
tion of auriferous pyrite.
quently found under this fo

11761. **Fossils** found in "Bitu
Corral de Piedra, S
fornia. Dr. George
1890.

11762. **Gold Quartz.** Hyde M
California. June 30

11763. **Wall Rock.** Foot an
11762. June 30, 18

11764. **Gold Quartz.** Newbaumer Mine, Tuolumne County, California. June 30, 1890.

11765. **Auriferous Vein Matter.** Chiefly arsenical pyrites; very rich and showing free gold. Newbaumer Mine, Tuolumne County, California. June 30, 1890.

11766. **Gold Quartz,** showing free gold. Keltz Mine, Tuolumne County, California. June 30, 1890.

11767. **Wall Rock.** Foot and hanging wall of Nos. 249, 898, and 11404. June 30, 1890.

11768. **Wall Rock**—Silicious Slate. Foot wall of No. 11750. June 30, 1890.

11769. **Wall Rock**—Clay Shale and Pyrite. Hanging wall of No. 11750. June 30, 1890.

11770. **Gold Quartz.** Eastman Mine, Tuolumne County, California. June 30, 1890.

11771. **Gold Quartz.** Page Mine, Tuolumne County, California. June 30, 1890.

11772. **Gold Quartz,** showing free gold. Hoxie Mine, Fresno County, California. June 30, 1890.

11773. **Silver Ore,** with gold. Zebra Mine, Green District, Fresno County, California. June 30, 1890.

11774. **Chromic Iron.** T. 11 S., R. 23 E., Fresno County, California. June 30, 1890.

11775. **Chromic Iron.** Little Shotgun Creek, two miles from Simms' Station, Shasta County, California. June 30, 1890.

11776. **Coal**—Lignite. San Joaquin Valley Coal Mine, Fresno County, California. June 30, 1890.

11777. **Coal**—Lignite. Stone Coal Valley, Modoc County, California. June 30, 1890.

11778. **Building Stone**—Sandstone. Sec. 26, T. 21 S., R. 13 E., Fresno County, California. June 30, 1890.

11779. **Limestone**—Marble. Sec. 29, T. 21 S., R. 15 E., Jacilitos Creek, Fresno County, California. June 30, 1890.

11780. **Building Stone**—Lava; two varieties. Hot Spring Valley, Modoc County, California. June 30, 1890.
Soft when quarried, hardens by exposure.

11781. **Fossil** fragments of Mastodon Tusk, recently unearthed at Petaluma, Sonoma County, California. June 30, 1890.

11782. **Gypsum**—var. Satin Spar. Oil Creek Cañon, Fresno County, California. June 30, 1890.

11783. **Clay**—Indurated. Jacilitos Creek, Fresno County, California. June 30, 1890.

11784. **Clay.** Oil Creek Cañon, Fresno County, California. June 30, 1890.

11785. **Clay.** Halleck, San Bernardino County, California. N. L. Morrow. June 30, 1890.

11786. **Fossil.** Carboniferous fossils in limestone. Halleck, San Bernardino County, California. N. L. Morrow. June 30, 1890.

11787. **Hornblende Porphyry.** Rising Sun Mine, Tuolumne County, California. June 30, 1890.

11788. **Hornblende** (massive). Rising Sun Mine, Tuolumne County, California. June 30, 1890.

11789. **Silver Ore.** San Christobal Mine, Zacatecas, Mexico. Juan Goldman. July 1, 1890.

11790. **Coal.** Elm Run, Massilon, Ohio. July 1, 1890.

11791. **Coal.** Alta Mine, Evanston, Wyoming. July 1, 1890.

11792. **Coal.** Walston Mine, Jefferson County, Pennsylvania. July 1, 1890.

11793. **Coke.** Made from Walston Coal, No. 11792. July 1, 1890.

11794. **Coal.** Corunna, Michigan. July 1, 1890.

11795. **Coal**—Cannel Coal. Four-Mile Mountain, Bell County, Kentucky. July 1, 1890.

11796. **Coal.** Trinidad Coal Company's Mines, Starkville, Colorado. July 1, 1890.

11797. **Coal.** Chandler Mine, Evansville, Indiana. July 1, 1890.

11798. **Coal**—Lignite. Tertiary formation. Ballard County, Kentucky. July 1, 1890.

11799. **Coal.** Triassic formation. Virginia. July 1, 1890.

11800. **Coal**—Bituminous. Westmoreland County, Pennsylvania. July 1, 1890.
The "gas coal" used in Pittsburg.

11801. **Coal.** Keith & Perry Mine, Richhill, Missouri. July 1, 1890.

11802. **Ozocerite** — Refined. Boryslaw, Galicia. July 1, 1890.

11803. **Coal.** Eureka Mine, Des Moines, Iowa. July 1, 1890.

11804. **Iron Ore**—Magnetite. Essex County, New Jersey. July 2, 1890.

11805. **Iron Ore**—Manganiferous, containing 50 per cent of iron and 10 per cent of manganese. Parazuelos, Spain. July 2, 1890.

11806. **Iron Ore.** Murcia, Spain. July 2, 1890.

11807. **Iron Ore**—Magnetite. Tilly Foster Mine, New York. July 2, 1890.

11808. **Iron Ore**—"Hard Ore." Atalla, Alabama. July 2, 1890.

11809. **Iron Ore**—Magnetite. Hurd Mine, New Jersey. July 2, 1890.

11810. **Iron Ore**—Magnetite. Juragua, Cuba. July 2, 1890.

11811. **Iron Ore.** Iron Mountain, Missouri. July 2, 1890.

11812. **Iron Ore.** Buena Vista, Rockbridge County, Virginia. July 2, 1890.

11813. **Iron Ore**—"Fossil Ore." Clinch River, Scott County, Virginia. July 2, 1890.

11814. **Copper Ore**—Bornite. Graphic Mine, Mogallon Mountains, New Mexico. July 2, 1890.

11815. **Copper Ore**—Native Copper in Conglomerate. Calumet and Hecla Mines, Houghton County, Michigan. July 2, 1890.

11816. **Bornite** (sulphide of copper). Blue Wing Mine, Granville County, North Carolina. July 2, 1890.

11817. **Mercury**—Native, on rich Cinnabar. 1700-foot level of the New Almaden Mine, Santa Clara County, California. J. B. Randol. July 8, 1890.

11818. **Iron Bolts**, from the wreck of the United States steamer "Edith," lost in 1848 at the mouth of Los Alamos Creek, Santa Barbara County, California. S. D. Sirine. July 8, 1890.

11819. **Iron Bolt,** from the wreck of the steamer "Yankee Blade" in 1853 on Punta de Pedronales, Santa Barbara County, California. S. Steele. July 8, 1890.

11820. **Fossil**—Favosites turbinatum. Louisville, Kentucky. July 8, 1890.

11821. **Columbite** (columbate of iron). Etta Mine, Harney Peak, South Dakota. July 8, 1890.

11822. **Silver Ore**—Argentiferous Galena. Hiawatha Mine, Chaffee County, Colorado. July 8, 1890.

11823. **Lead Ore**—Carbonate. Austinville, Wythe County, Virginia. July 8, 1890.

11824. **Stone Ax;** very fine specimen. From ancient ruins near the Grand Canal, seven miles east of Phœnix, Arizona. John H. Ordway. July 10, 1890.

11825. **Copper**—Native. El Oro District, Durango, Mexico. Frank Fletcher. July 11, 1890.

11826. **Psilomelane** (hydrous oxide of manganese and barium). Lyndhurst, Augusta County, Virginia. July 12, 1890.

11827. **Silver Ore.** Rich in Native Silver and Argentite. Santa Cueva Mine, Santa Rosa District, Sonora, Mexico. E. M. Railton. July 16, 1890.

11828. **Granite.** Knowles & Hosmer's Quarry, Raymond, Fresno County, California. July 18, 1890.

11829. **Iron Ore.** Tecumseh Furnace, Alabama. July 18, 1890.

11830. **Iron Ore.** Brophy Cañon, Newhall, Los Angeles County, California. July 18, 1890.
Ledge, 5 feet thick; ore assays 60 per cent iron.

11831. **Coal**—Lignite. Brophy Mine, Brophy Cañon, Newhall, Los Angeles County, California. July 18, 1890.

11832. **Melanterite** (hydrous sulphate of iron). Petaluma, Sonoma County, California. Benjamin C. Hessletine. July 18, 1890.

11833. **Building Stone**—Sandstone. Sec. 21, T. 21 S., R. 14 E., Fresno County, California. July 18, 1890.

11834. **Coal.** Yellow Creek, Bell County, Kentucky. July 18, 1890.

11835. **Coal.** Glenwood Springs, Colorado. July 18, 1890.

11836. **Hematite and Calcite.** Montgomery County, Pennsylvania. July 18, 1890.

11837. **Clay**—Fire clay. Dunbar, Pennsylvania. July 18, 1890.

11838. **Slate.** Three specimens of Roofing Slate. Vermont. July 18, 1890.

11839. **Slate.** Two specimens of Roofing Slate. Maine. July 18, 1890.

11840. **Slate**—Roofing Slate. Hampton, New York. July 18, 1890.

11841. **Conglomerate**—Volcanic. "Bad Lands," Little Pumpkin Creek, Montana. July 18, 1890.

11842. **Porphyry.** Eclipse Mine, El Dorado County, California. July 18, 1890.

11843. **Talcose Schist.** Hunt's Gulch, El Dorado County, California. July 18, 1890.

11844. **Chromic Iron.** Sec. 24, T. 15 N., R. 13 W., 1½ miles west of Ukiah, Mendocino County, California. July 19, 1890.

11845. **Magnetite Crystals.** From the mines of Wetherbee, Sherman & Co., Port Henry, Lake Champlain District, New York. John Birkinbine. July 23, 1890.
Assay: 71.4 iron, .03 phosphorus.

11846. **Building Stone**—Red Sandstone. Dressed Cube. Ione, Amador County, California. D. O'Neil. July 24, 1890.
Said to be 175 feet thick.

11847. **Silver Ore.** Champion Mine, Deer Lodge County, Montana. C. W. Leonard. July 24, 1890.

11848. **Silver Ore.** McDermott Mine, Deer Lodge County, Montana. C. W. Leonard. July 24, 1890.

11849. **Silver Ore.** Gospel Mountain Mine, Deer Lodge County, Montana. C. W. Leonard. July 24, 1890.

11850. **Silver Ore.** American Ruby and Mountain Lion Mines, Deer Lodge County, Montana. C. W. Leonard. July 24, 1890.

11851. **Chromic Iron;** high grade. Capell Valley, Napa County, California. D. M. Miller. July 26, 1890.

11852. **Limonite**—Pisolitic, on Chalcedonic Quartz, with Hyalite. Bicknell Ridge, Volcano, Amador County, California. W. Q. Mason. August 4, 1890.

11853. **Calcite**—var. Dogtooth Spar, on Conglomerate. Volcano Gold Gravel Mine, Volcano, Amador County, California. W. Q. Mason. August 4, 1890.

11854. **Quartz Crystal**—Smoky. Shake Ridge, Volcano, Amador County, California. W. Q. Mason. August 4, 1890.

11855. **Phosphate of Lime**—Bone, partially decomposed. From a mass found in the Cleveland Drift Gravel Mine, Volcano, Amador County, California. W. Q. Mason. August 4, 1890.

11856. **Epidote Crystals** (silicate of aluminum, iron, and calcium), on Quartz. Bald Point, Mokelumne River, Calaveras County, California. W. Q. Mason. August 4, 1890.

11857. **Garnet**—Almandite (silicate of iron, aluminum, calcium, etc.). Bald Point, Mokelumne River, Calaveras County, California. W. Q. Mason. August 4, 1890.

11858. **Salt.** Indian Salt Springs on the Mokelumne River, near the east line of Calaveras County, California. W. Q. Mason. August 4, 1890.

11859. **Greisen.** Quartz and Mica: two varieties. Julian, San Diego County, California. August 4, 1890.

11860. **Diatomaceous Earth.** Mirage, Churchill County, Nevada. A. J. Robinson. August 4, 1890.

11861. **Nosean Basalt.** Calico, San Bernardino County, California. J. R. Scupham. August 7, 1890.

11862. **Lava.** Mount Bidwell, Modoc County, California. August 7, 1890.

11863. **Building Stone**—Volcanic Ash. Sec. 18, T. 11, R. 24 W., S. B. M. John Hambleton. August 7, 1890.
Said to be in inexhaustible supply.

11864. **Asphaltum.** Residue from the distillation of crude petroleum. Union Oil Works, Kern County, California. John Hambleton. August 7, 1890.

11865. **Sulphur.** Sec. 28, T. 11, R. 23 W., S. B. M., Kern County, California. John Hambleton. August 7, 1890.
Said to exist in immense quantities.

11866. **Coal**—Lignite. Madonahen Mine, Tuolumne County, California. August 7, 1890.

11867. **Silver Ore.** Cloud Mine, head of Kings and Kaweah Rivers, Tulare County, California. August 7, 1890.

11868. **Silver Ore.** Defiance Mine, Sec. 35, T. 22, R. 28, Tulare County, California. August 7, 1890.

11869. **Auriferous Galena.** Bullion Mine, Mineral King District, Tulare County, California. August 7, 1890.
Said to assay $100 per ton, gold.

11870. **Gold Quartz.** From the present workings of the Plumas Eureka Mine, Plumas County, California. August 7, 1890.

11871. **Gold Quartz.** Golden Belt Mine, Diamond Mountain, Lassen County, California. August 7, 1890.

11872. **Platinum.** Klamath River, Del Norte County, California. R. W. Miller. August 11, 1890.

11873. **Platinum.** Ventura, California. James A. Noyes. August 11, 1890.

11874. **Gold Quartz,** showing free gold. Feather River Gold Mining Company's claim, Prattville, Plumas County, California. Alexander Cameron. August 12, 1890.

11875. **Gold Quartz.** Altoona Mine, Cherokee District, Plumas County, California. August 12, 1890.

11876. **Aragonite** (carbonate of calcium). Now forming and gradually closing the fissures of the Tuscan Mineral Springs, Tehama County, California. August 12, 1890.

11877. **Fossil Shell,** Crassatella collina, Con. (Miocene). Sespe Cañon, Ventura County, California. August 13, 1890.

11878. **Fossil Shell,** Glycimeris generosa, Gould (Miocene). Sespe Cañon, Ventura County, California. August 13, 1890.

11879. **Fossil Shell,** Actæonella oviformis, Gabb. (Cretaceous). Santa Ana Mountains, Orange County, California. August 13, 1890.

11880. **Fossil Shell,** Cucullæa inermis, Gabb. (Cretaceous). Santa Ana Mountains, Orange County, California. August 13, 1890.

11881. **Fossil Shells** (casts), Macoma inquinata, Desh. (Quaternary). Sespe Mountains, Ventura County, California. August 13, 1890.

11882. **Fossil Shell,** Turritella uvasana, Con. (Cretaceous). Santa Ana Mountains, Orange County, California. August 13, 1890.

11883. **Fossil,** Parapholas californica, Con. (Quaternary). San Joaquin Bay, Orange County, California. August 13, 1890.

11884. **Fossil Shell,** Pinna alamedensis, Yates (Miocene). Sespe Mountains, Ventura County, California. August 13, 1890.

11885. **Fossil Shell,** Lucapina crenulata, Sby. (Quaternary). Headwaters of Sespe River, Ventura County, California. August 13, 1890.

11886. **Fossil Shell,** Saxidomus gracilis, Gould (Quaternary). El Toro, Orange County, California. August 13, 1890.

11887. **Fossil Shell,** Donax californicus, Con. (Quaternary). Headwaters of Sespe River, Ventura County, California. August 13, 1890.

11888. **Fossil Shell,** Drillia pencillata, Carp. (Quaternary). Headwaters of Sespe River, Ventura County, California. August 13, 1890.

11889. **Fossil Shell,** Crucibulum spinosum, Sby. (Quaternary). Headwaters of Sespe River, Ventura County, California. August 13, 1890.

11890. **Fossil Shell,** Chione simillima, Sby. (Quaternary). Headwaters of Sespe River, Ventura County, California. August 13, 1890.

11891. **Fossil Shell,** Cerithidea californica, Hald. (Quaternary). Headwaters of Sespe River, Ventura County, California. August 13, 1890.

11892. **Fossil Shell,** Crepidula excavata, Brod. (Quaternary). San Joaquin Bay, Orange County, California. August 13, 1890.

11893. **Fossil Shell,** Pomulax undosus, Wood (Quaternary). San Joaquin Bay, Orange County, California. August 13, 1890.

11894. **Fossil Shell,** Myurella simplex, Carp. (Quaternary). San Joaquin Bay, Orange County, California. August 13, 1890.

11895. **Fossil Shell,** Pecten paucicostatus, Carp. (Quaternary). San Joaquin Bay, Orange County, California. August 13, 1890.

11896. **Fossil Shell,** Pholadidea penita, Con. (Quaternary). San Joaquin Bay, Orange County, California. August 13, 1890.

11897. **Fossil Shell,** Dentalium hexagonum, Sby. (Quaternary). San Joaquin Bay, Orange County, California. August 13, 1890.

11898. **Fossil Shell,** Omphalius fucescens, Phil. (Quaternary). San Joaquin Bay, Orange County, California. August 13, 1890.

11899. **Fossil Shell,** Nassa mendicans, Gould, var. Cooperi, Forbes (Quaternary). San Joaquin Bay, Orange County, California. August 13, 1890.

11900. **Fossil Shell,** Fissurella volcano, Reeve (Quaternary). San Joaquin Bay, Orange County, California. August 13, 1890.

11901. **Fossil Shell,** Pachydesma crassatelloides, Con. (Quarternary). San Joaquin Bay, Orange County, California. August 13, 1890.

11902. **Fossil Shell,** Amycla tuberosa, Carp. (Quaternary). San Joaquin Bay, Orange County, California. August 13, 1890.

11903. **Fossil Shell,** Olivella boetica, Carp. (Quaternary). San Joaquin Bay, Orange County, California. August 13, 1890.

11904. **Quartz and Asbestus.** From the Auriferous Channel at the Dutch Hill Drift Mine, Plumas County, California. August 14, 1890.

11905. **Magnesite** (carbonate of magnesia). From near the chromic iron mines, 30 miles S.W. from Red Bluff, Tehama County, California. August 14, 1890.

11906. **Wood,** partially carbonized. Found at a depth of 400 feet from surface in the Auriferous Channel of the Dutch Hill Drift Mine, Plumas County, California. August 14, 1890.

11907. **Gold Quartz.** Palo Alto Mine, Butte County, California. August 14, 1890.

11908. **Gold Quartz.** American Eagle Mine, Butte County, California. August 14, 1890.

11909. **Gold Quartz.** Gallagher & Perkins Mine, Butte County, California. August 14, 1890.

11910. **Gold Quartz.** Rainbow Mine. Butte County, California. August 14, 1890.

11911. **Gold Quartz.** Gold Ledge Mine, Butte County, California. August 14, 1890.

11912. **Gold Quartz.** Bald Mountain Mine, Albany Flat, Angels District, Calaveras County, California. August 14, 1890.

11913. **Gold Quartz.** Tulloch & Lane Mine, Angels, Calaveras County, California. August 14, 1890.

One hundred feet from surface in main tunnel.

11914. **Gold Quartz.** From a depth of 100 feet in the Illinois Mine, Foorman District, Calaveras County, California. August 14, 1890.

11915. **Gold Quartz.** F. Wisson's Mine, San Andreas, Calaveras County, California. August 14, 1890.

11916. **Gold Quartz.** From a depth of 160 feet in the Total Wreck Mine, Murphys, Calaveras County, California. August 14, 1890.

11917. **Auriferous Vein Matter.** Leonard & Wyllie Mine, San Andreas District, Calaveras County, California. August 14, 1890.

11918. **Auriferous Vein Matter.** German Ridge Mine, San Domingo District, 4 miles N. of Angels, Calaveras County, California. August 14, 1890.

11919. **Auriferous Vein Matter**—Arsenical Pyrite. Cloud Mine, Angels, Calaveras County, California. Otto Dolling. August 14, 1890.

11920. **Copper Ore.** Condon Mine, Big Flat District, Del Norte County, California. August 14, 1890.

11921. **Fossil Shell,** Arca idoneo, Con. (Miocene). Yorktown, Virginia. August 15, 1890.

11922. **Fossil Shell,** Oliva caniculata, Lea. (Miocene). Yorktown, Virginia. August 15, 1890.

11923. **Fossil Shell,** Teredo pitula, H. C. L. (Miocene). Yorktown, Virginia. August 15, 1890.

11924. **Fossil Shell,** Crypta spinosa (Miocene). Yorktown, Virginia. August 15, 1890.

11925. **Fossil,** Bryozoas (Miocene). Bellefield, York River, Virginia. August 15, 1890.

11926. **Fossil Shell,** Ecphira quadricostatus, Con. (Miocene). Yorktown, Virginia. August 15, 1890.

11927. **Fossil Shell,** Arca. Little Castaca Cañon, near Newhall, Los Angeles County, California. August 15, 1890.

11928. **Fossil,** Scolithus linearis. Potsdam sandstone. Lick Mountain, Wythe County, Virginia. August 15, 1890.

11929. **Fossil Shell,** Venus tridacnoides, Lam. (Miocene). Yorktown, Virginia. August 15, 1890.

11930. **Fossil,** Septastea (Miocene). Bellefield, York River, Virginia. August 15, 1890.

11931. **Fossil Shell,** Chione whitneyi? From beneath the coal, Brophy Cañon, near Newhall, Los Angeles County, California. August 15, 1890.

11932. **Fossil Shell,** Pecten. From the oil strata, near Newhall, Los Angeles County, California. August 15, 1890.

11933. **Fossil Shell,** Schizothaerus nuttalli, Con. From beneath the coal in Brophy Cañon, near Newhall, Los Angeles County, California. August 15, 1890.

11934. **Fossil,** Fucoid on "Medina" Sandstone. New York. August 15, 1890.

11935. **Fossil,** Trinucleus concentricus, Cincinnati epoch. Rome, New York. Miss S. P. Monks. August 15, 1890.

11936. **Fossil,** Triarthrus beckii, Utica epoch. Rome, New York. Miss S. P. Monks. August 15, 1890.

11937. **Tincal**—Native Borax. Saline Valley, Inyo County, California. Conn & Trudo. August 15, 1890.

11938. **Chromic Iron.** French Hill Mine, Del Norte County, California. Tyson Mining Company. August 15, 1890.

11939. **Chromic Iron.** Low Divide Mine, Del Norte County, California. Tyson Mining Company. August 15, 1890.

11940. **Gold Quartz.** Dead Horse Mine, Tuolumne County, California. August 16, 1890.

11941. **Gold Quartz.** Maryatt Mine, Tuolumne County, California. August 16, 1890.

11942. **Gold Quartz.** Gem Mine, Tuolumne County, California. August 16, 1890.

11943. **Gold Quartz.** Dorsey Mine, Whisky Hill, Tuolumne County, California. August 15, 1890.

11944. **Gold Quartz.** Indiana Mine, Tuolumne County, California. August 16, 1890.

11945. **Gold Quartz.** Bella Italia Mine, Tuolumne County, California. August 16, 1890.

11946. **Gold Quartz.** Lynch Mine, Tuolumne County, California. August 16, 1890.

11947. **Auriferous Vein Matter**—Talcose Slate, showing free gold and Chalcopyrite. Suffolk Mine, Angels, Calaveras County, California. C. D. Voy. August 16, 1890.

11948. **Fossiliferous Limestone.** East of "Mother Lode," McCormick Ranch, five miles northwest from Volcano, between Dry Creek and Deadman's Gulch, Amador County, California. C. D. Voy. October —, 1889.

This and the following six specimens were collected by Professor Voy in 1889, and are the first fossils discovered on the "Great Mother Lode" of California, and, consequently, of special value in determining the geological age of the main gold-bearing belt, or formation, of the State. They are now being studied for determination at Washington, D. C.

11949. **Fossiliferous Limestone.** East of the "Mother Lode," Strickland Ranch. 6½ miles east from the town of Sutter Creek, and about half a mile north of the creek, on a side hill. Amador County, California. C. D. Voy. October —, 1889.

11950. **Fossiliferous Limestone.** East of the "Mother Lode," and from the main limestone belt at Cave City, Calaveras County, California. C. D. Voy. October —, 1889.

11951. **Fossiliferous Limestone.** West of the "Mother Lode." First of these specimens found. A. R. Young's ranch, five miles north of Valley Springs, near the old Spring Valley House, Calaveras County, California. C. D. Voy. July —, 1889.

11952. **Fossiliferous Limestone.** Two miles west of the "Mother Lode," A. Malson's ranch, on the south side of Dry Creek, two miles west of Drytown, Amador County, California. C. D. Voy. October —, 1889.

11953. **Fossiliferous Slate,** with Ammonite (probably a new species). Two miles west of the "Mother Lode," Texas Ranch, six miles north of Copperopolis, half a mile below the stage road from Copperopolis to Sonora, and two and one half miles west of the mouth of Angels Creek, Calaveras County, California. Found September 12, 1889. C. D. Voy.

11954. **Fossiliferous Slate,** with Ancellas (probably a new species). Two miles west of the "Mother Lode," Texas Ranch, six miles north of Copperopolis, half a mile below the stage road from Copperopolis to Sonora, and two and one half miles west of the mouth of Angels Creek, Calaveras County, California. Found September 12, 1889. C. D. Voy.

11955. **Fossil Shells,** Rhynconella whitneyi (Cretaceous) Sulphur Creek, Colusa County, California. C. D. Voy. August 16, 1890.

11956. **Pilinite** (hydrous silicate of aluminum, calcium, and lithium). New Almaden Mine, Santa Clara County, California. J. B. Randol. August 16, 1890.

11957. **Sapphires** (corundum), four crystals. Ceylon. Williamsburg Scientific Society. August 16, 1890.

11958. **Platinum.** Nugget weighing $484\frac{4}{10}$ grains. Chapman & Fisher Mine, T. 33 N., R. 10 W., Secs. 19, 29, and 30, M. D. M., Trinity County, California. George Chapman. August 16, 1890.

11959. **Platinum.** Nugget weighing 310 grains. Old Eagle Mine, T. 33 N., R. 11 W., Sec. 9, M. D. M., Trinity County, California. Fritz Weckel. August 16, 1890.

11960. **Gold**—100 grains. Sample of placer gold from the Hatchet Creek Mine, T. 36–37 N., R. 7 W., M. D. M., Trinity County, California. D. Haskins. August 18, 1890.

11961. **Gold**—120 grains. Coyle Mine, T. 36 N., R. 7 W., M. D. M., Trinity County, California. Ah Dean. August 18, 1890.

11962. **Gold**—420 grains. Center Mine, T. 36 N., R. 7 W., M. D. M., Trinity County, California. Bloss & McClary. August 18, 1890.

11963. **Gold**—120 grains. McMurry & Hupp Mine, T. 33 N., R. 9 W., M. D. M., Trinity County, California. McMurry & Hupp. August 18, 1890.

11964. **Gold**—60 grains. Hunt & Ellison Mine, T. 33 N., R. 10 W., M. D. M., Trinity County, California. Hunt & Ellison. August 18, 1890.

11965. **Gold**—120 grains. Haas Mine, T. 33 N., R. 10 W., M. D. M., Trinity County, California. Fred. Haas. August 18, 1890.

11966. **Gold**—65 grains. Evans Mine, T. 33 N., R. 11 W., M. D. M., Trinity County, California. David Evans. August 18, 1890.

11967. **Gold**—120 grains. Hayes Mine, T. 33 N., R. 11 W., M. D. M., Trinity County, California. Dr. A. H. Hayes. August 18, 1890.

11968. **Gold**—122 grains. Smith & Watrous' Mine, T. 35 N., R. 11 W., M. D. M., Trinity County, California. Smith & Watrous. August 18, 1890.

11969. **Quicksilver Ore**—Cinnabar. Cañon Creek, T. 34 N., R. 11 W., Sec. 7, M. D. M., Trinity County, California. August 18, 1890.

11970. **Mercury**—Native, in Cinnabar. Altoona Mine, Sec. 22, T. 38 N., R. 6 W., M. D. M., Trinity County, California. From the Company. August 18, 1890.

11971. **Cinnabar** (sulphide of mercury). Altoona Mine, Sec. 22, T. 38 N., R. 6 W., M. D. M., Trinity County, California. From the Company. August 18, 1890.

11972. **Cinnabar** (sulphide of mercury), crystallized. Altoona Mine, Sec. 22, T. 38 N., R. 6 W., M. D. M., Trinity County, California. From the Company. August 18, 1890.

11973. **Quicksilver Ore**—Cinnabar, on Quartz. Altoona Mine, Sec. 22, T. 38 N., R. 6 W., M. D. M., Trinity County, California. From the Company. August 18, 1890.

11974. **Quicksilver Ore**—Cinnabar, concentrated from "soft ore." See No. 7511. Altoona Mine, Sec. 22, T. 38 N., R. 6 W., M. D. M., Trinity County, California. From the Company. August 18, 1890.

11975. **Quicksilver Ore**—Cinnabar, in Calcite. Altoona Mine, Sec. 22, T. 38 N., R. 6 W., M. D. M., Trinity County, California. From the Company. August 18, 1890.

11976. **Silver Ore**—Argentiferous Cerussite. Broken Hill Proprietary Company's Mines, Great Barrier Range, Broken Hill, New South Wales, Australia. P. Edwards. August 18, 1890.

11977. **Gold Quartz,** showing free gold. Hibbert & Burns Mine, Brown's Valley, Yuba County, California. Hibbert & Burns. August 20, 1890.

11978. **Gold Quartz**, showing free gold in the quartz, and also in Limonite. Marc Antony Mine, near Timbuctoo, Yuba County, California. Sam Gunning. August 20, 1890.

11979. **Gold Quartz.** From the hanging wall, 1250-foot level, of the Kennedy Mine, Amador County, California. August 20, 1890.

11980. **Gold Quartz.** From the foot wall, 1250-foot level, of the Kennedy Mine, Amador County, California. August 20, 1890.

11981. **Gold Quartz.** Gold Cliff Mine, Angels, Calaveras County, California. August 20, 1890.

11982. **Gold Quartz.** Josephine Mine, Bear Valley, Mariposa County, California. August 20, 1890.

11983. **Gold Quartz.** No. 2 level of the Tyro Mine, Coulterville, Mariposa County, California. From the Company. August 20, 1890.

11984. **Gold Quartz.** No. 3 level; showing the change in the character of the rock on reaching the water level. Tyro Mine, Coulterville, Mariposa County, California. From the Company. August 20, 1890.

11985. **Gold Quartz.** Partly decomposed "honeycomb" quartz very rich in free gold. No. 1 level of the Tyro Mine, Coulterville, Mariposa County, California. From the Company. August 20, 1890.

11986. **Gold Quartz,** showing abundance of free gold, which appears to have been rubbed smooth by the movement of the walls or of the vein. Adelaide Mine, Robinson's Ferry, Calaveras County, California. Harvey Wood & Bro. August 20, 1890.

11987. **Auriferous Vein Matter.** East vein of the Hale Mine, Angels, Calaveras County, California. Charles D. Smyth. August 20, 1890.

11988. **Auriferous Vein Matter.** West vein of the Hale Mine, Angels, Calaveras County, California. Charles D. Smyth. August 20, 1890.

11989. **Gold Quartz.** From body of the vein, Adelaide Mine, Robinson's Ferry, Calaveras County, California. August 20, 1890.

11990. **Copper Ore** — Chalcopyrite, Bornite, and Malachite. Red Hill Mine, four miles southeast from Coulterville, Mariposa County, California. August 20, 1890.

11991. **Pyrophyllite** (hydrous silicate of aluminum). Mariposa County, California. D. A. Marston. August 20, 1890.

11992. **Granite.** Polished by glacial attrition. Glacier Point, Yosemite Valley, Mariposa County, California. D. A. Marston. August 20, 1890.

11993. **Gold Quartz,** with Chrysocolla, and showing free gold in both. Young America Mine, Sierra County, California. From the Company. August 20, 1890.

11994. **Paramorph after Ankerite.** Comanche Mine, Benton, Mono County, California. August 20, 1890.

11995. **Salt**—Native. Death Valley, Inyo County, California. R. L. Dunn. August 20, 1890.

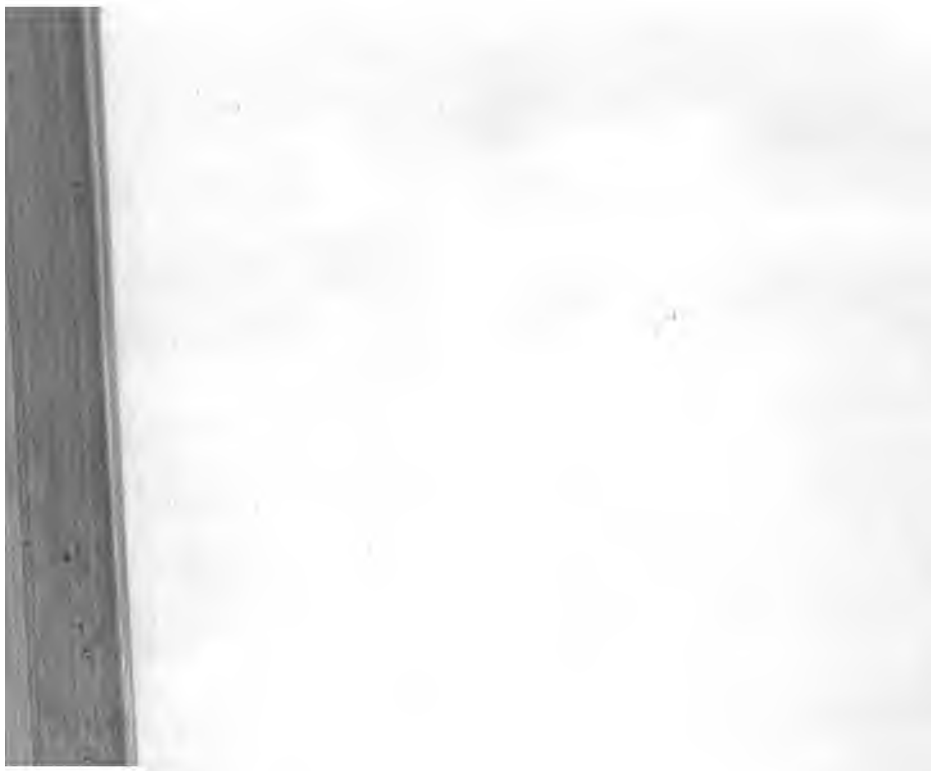
11996. **Borate of Lime,** with Gypsum. Death Valley, Inyo County, California. R. L. Dunn. August 20, 1890.

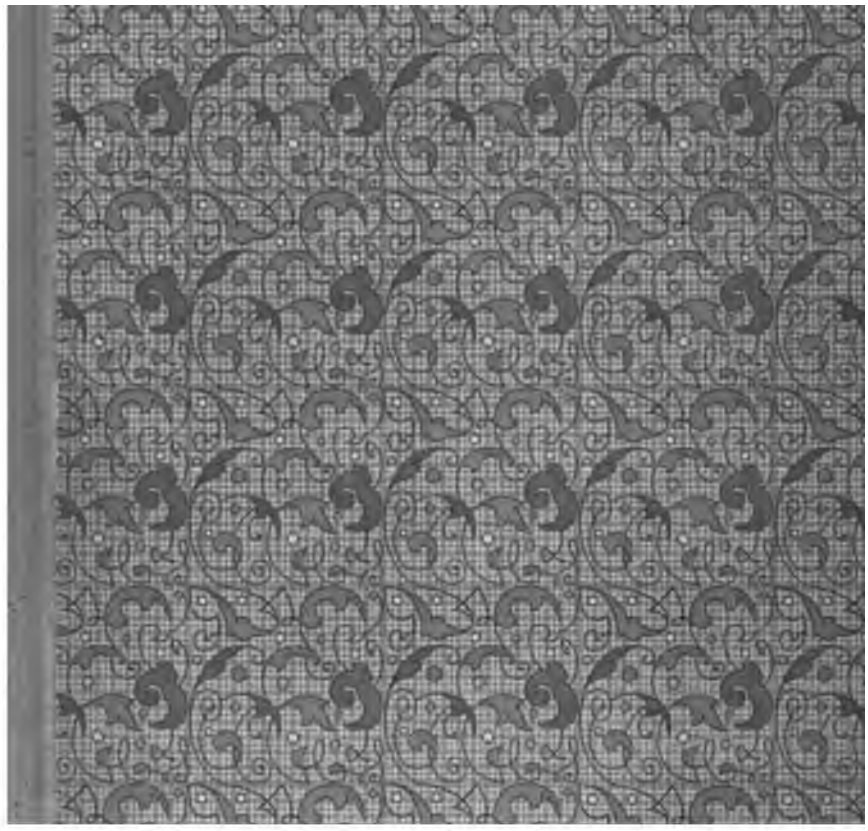
11997. **Gold Quartz.** Calaveras Chief Mine, San Andreas, Calaveras County, California. William Moorehouse. August 20, 1890.

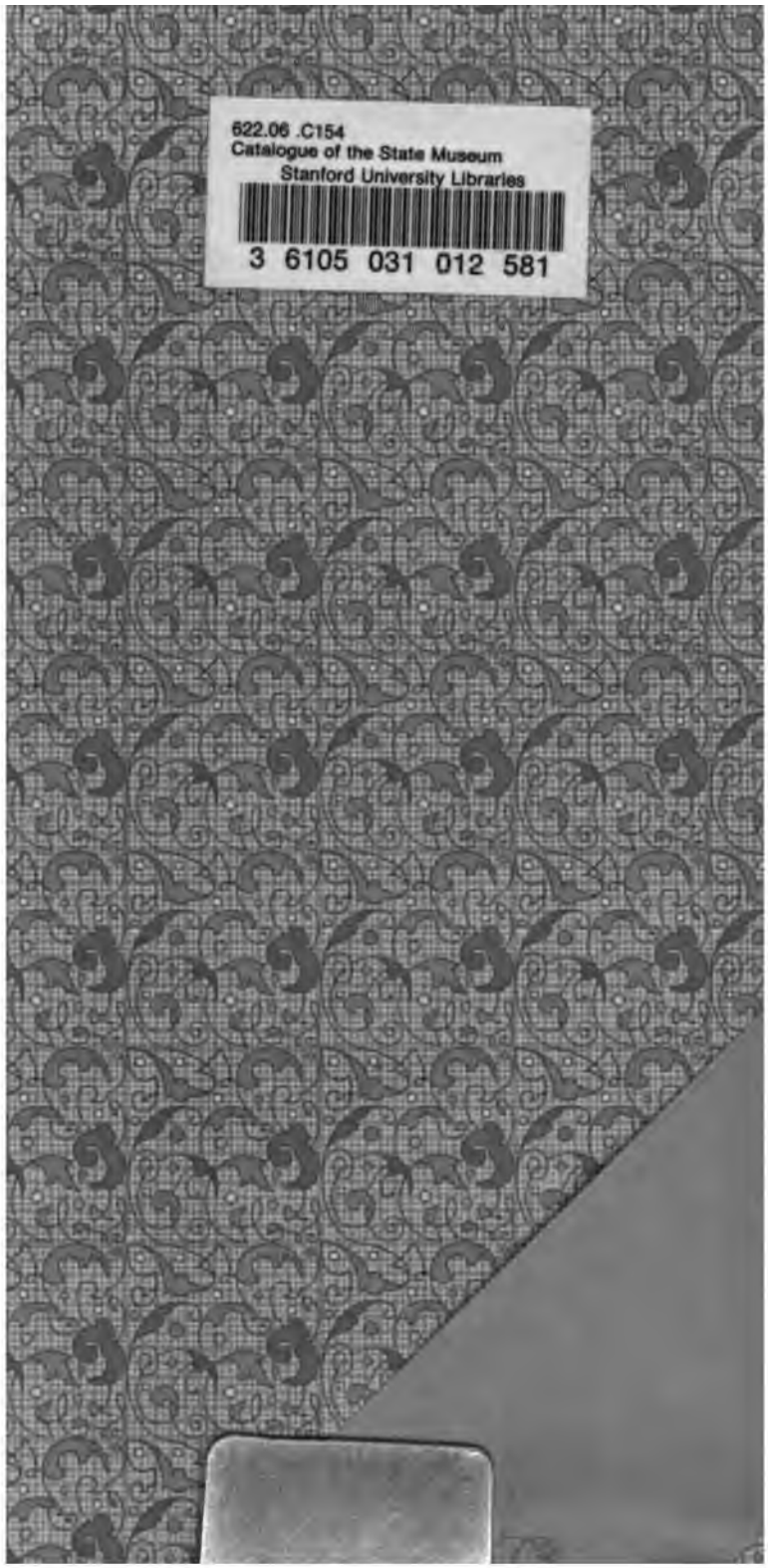
11998. **Gold Quartz.** Mary Ellen Mine, near Jacksonville, Tuolumne County, California. August 20, 1890.

11999. **Gold Quartz.** Bunker Hill Mine, Amador County, California. August 20, 1890.

12000. **Copper**—Native, and **Copper Ores**—Tetrahedrite, Chalcopyrite, and Malachite. Bunker Hill Copper Mine, near Coulterville, Mariposa County, California. August 20, 1890.



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